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ABSTRACT

The Federal Water Pollution Control Act provides that each and every point source of pollution be under treatment with the best available technology by July 1983. The Act mandates that: every point source of pollution be issued a national pollutant discharge elimination system (NPDES) permit and comply with effluent guidelines, and the 1983 best available guidelines be economically achievable. Issuance of a NPDES permit is conditional upon compliance with the effluent limitations. Part of the statutory definition for "point source" of pollution contains the phrase "concentrated animal feeding operation". On February 14, 1974, the Environmental Protection Agency (EPA) promulgated final regulations, exempting certain classes of point sources (animal feeding operations below 1,000 beef cattle unit equivalents) from compliance with the Act's permit and effluent guidelines. The Natural Resources Defense Council (NRDC) filed suit in Federal district court in Washington alleging that the EPA did not have discretion, under the act, to exempt certain classes of point sources from compliance with these provisions. On June 10, 1975, the court agreed with the NRDC and ordered EPA to propose new draft regulations covering all segments of the concentrated animal feeding operation category of point sources by November 10, 1975. These hearings explored the numerous and complicated issues and problems involved with developing a program to comply with the law and the court order. (AUTHOR/NQ)

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WILL THE FAMILY FARM SURVIVE IN AMERICA?

ED124349

JOINT HEARINGS

BEFORE THE

SELECT COMMITTEE ON SMALL BUSINESS

AND THE

COMMITTEE ON PUBLIC WORKS

AND THE

COMMITTEE ON AGRICULTURE AND FORESTRY

UNITED STATES SENATE

NINETY-FOURTH CONGRESS

FIRST SESSION

ON

WILL THE FAMILY FARM SURVIVE IN AMERICA?

PART 2

IMPACT OF ENVIRONMENTAL REGULATIONS ON SMALL FARMS

OCTOBER 21 AND 22, 1975

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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WILL THE FAMILY FARM SURVIVE IN AMERICA? IMPACT OF ENVIRONMENTAL REGULATIONS ON SMALL FARMERS

TUESDAY, OCTOBER 21, 1975

U.S. SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
COMMITTEE ON PUBLIC WORKS, AND THE
COMMITTEE ON AGRICULTURE AND FORESTRY,
Washington, D.C.

The committees met, pursuant to notice, at 9:30 a.m., in room 457, Russell Senate Office Building, Hon. Gaylord Nelson, presiding.

Present: Senators Nelson, Nunn, Stafford, and Brock.

Also present: James S. Medill, counsel, Small Business Committee; Jeffrey Nedelman, legislative director to Senator Nelson; Judy Affeldt, research assistant to Senator Nelson; and Warren Sawall, professional staff member of the Employment, Poverty, and Migratory Labor Subcommittee.

Senator NELSON. The committee will be in order.

This is a joint hearing of the Senate Small Business Committee, the Agriculture and Forestry Committee, and the Public Works Committee.

In 1972, the Congress enacted sweeping legislation to accelerate the Nation's efforts to restore the natural integrity of our waters. The 1972 amendments to the Federal Water Pollution Control Act (Public Law 92-500) updated and modernized this Nation's approach to clean water.

Simply stated, the act provides that each and every point source of pollution be under treatment with the best available technology by July 1983. We have made great progress since 1972, yet much work remains to be completed before the economic and ecological health of our waterways is restored and protected.

Specifically, section 402 of the act mandates that every point source of pollution be issued a national pollutant discharge elimination system (NPDES) permit and comply with effluent guidelines (sec. 301). Issuance of a NPDES permit is conditional upon compliance with the effluent limitations. The act also mandates that the 1983 best available guidelines be economically achievable.

Part of the statutory definition for "point source" of pollution contains the phrase "concentrated animal feeding operation" (sec. 502(14)). There is little legislative history to guide the EPA in determining what is a "concentrated animal feeding operation," what is an agricultural point source of pollution that will need a NPDES permit and comply with effluent guidelines, and what is not a point source.

Nonetheless, there is legislative history that a distinction between an agricultural point source and an agricultural nonpoint source should be made. I believe it ought to be well understood that Congress, in enacting this legislation, did not intend that each and every one of the Nation's 1.5 million feedlots were to be considered a "concentrated animal feeding operation," a point source.

However, the Congress, in my judgment, did intend that large feeding operations and small, operations that contribute significant amounts of pollution to a waterway, be considered point sources. The current problem seems to be how and where to draw this most important distinction.

In attempting to resolve the problem, the EPA has gone through a lengthy and extremely controversial process of promulgating a series of regulations pursuant to sections 301 and 402 of the act.

On February 14, 1974, the EPA promulgated final regulations that exempted certain classes of point sources, animal feeding operations below 1,000 beef cattle unit equivalents, from compliance with the permit and effluent guideline programs of the act.

The Natural Resources Defense Council (NRDC) filed suit in Federal district court in Washington alleging that the EPA does not have discretion, under the act, to exempt certain classes of point sources from compliance with these provisions of the law. If something was determined to be a point source, NRDC argued, it had to comply. It made no difference if it was a large point source or a small point source.

On June 10, 1975, Federal District Court Judge Flannery agreed with the NRDC and ordered the EPA to propose new draft regulations covering all segments of the concentrated animal feeding operation category of point sources by November 10, 1975.

These 2 days of hearings will explore the numerous and complicated issues and problems involved with developing a program to comply with the law and the court order.

Our first witness will be representing the Environmental Protection Agency. Mr. Stanley W. Legro, Assistant Administrator for Enforcement; accompanied by Albert C. Printz, Jr., Office of Technical Analysis.

Senator NUNN. Mr. Chairman, I would like to say I appreciate you holding these hearings. I think it is very timely and part of the oversight sometimes lacking in Congress.

I am delighted to be here this morning. I have other committee hearings starting at 10 o'clock, but I will be back and forth and will be here as much as I can.

Senator NELSON. I am pleased to have you here this morning.

Let me welcome Senator Stafford, who is a member of the Public Works Committee.

Senator STAFFORD. Mr. Chairman, I am glad to be here, and I think it is an important subject since the farming industry is important in my State as well as yours.

I want to especially extend my appreciation to you for initiating this hearing.

Senator NELSON. Mr. Legro, your statement will be printed in full in the record.

STATEMENT OF HON. STANLEY W. LEGRO, ASSISTANT ADMINISTRATOR FOR ENFORCEMENT, ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY ALBERT C. PRINTZ, JR., OFFICE OF TECHNICAL ANALYSIS, ENVIRONMENTAL PROTECTION AGENCY

Mr. LEGRO. I am Stanley Legro, Assistant Administrator for Enforcement. As the chairman has indicated, I have with me this morning Mr. Albert C. Printz. I also have with me Mr. Blake Biles and Ms. Kathe Anderson, who have been working on this matter.

I will make a brief statement, and I will be available as well as Mr. Printz and others on our staff to answer any questions you might have.

Mr. Chairman, I welcome this opportunity to appear before your committee today to discuss the views of the Environmental Protection Agency on the control of pollution from feedlots.

As you mentioned, Mr. Chairman, in 1973, EPA promulgated regulations which excluded certain categories of point sources from the requirement that they obtain NPDES permits. These included discharges from separate storm sewers and from agricultural and silvicultural activities, including irrigation return flows and relatively small feedlots. EPA's decision to exclude these point sources was based on the conclusion that pollution abatement for most such discharges is better achieved by application of process changes which prevent pollutants from entering the point sources, than by end-of-pipe treatment.

EPA also recognized that it is administratively unworkable to issue individual site-specific permits to all such point sources.

Thereafter, NRDC challenged EPA's authority to make these exclusions from the NPDES permit program by filing a civil action, *NRDC* v. *Train*, in the District Court for the District of Columbia. The court ruled that EPA may not exclude point source discharges from the permit program.

On June 10, the court ordered EPA to propose and promulgate regulations extending the NPDES permit program to those point sources previously excluded.

In attempting to comply in good faith with the court order, EPA has solicited and received information, statistics, and advice from other Federal agencies, State and local officials, agricultural and environmental groups, and interested members of the public.

In addition to hearings held in Washington, D.C., EPA has also held widely publicized public hearings in Boston, Chicago, Omaha, and Dallas, at which a wide range of testimony and information has been received. Mr. Printz, who is here with me as well as Ms. Anderson and Mr. Biles, attended those hearings and are here to answer any questions that you, Mr. Chairman, or members of the committee may have.

Based on this reaction and EPA's experience in the administration of the NPDES program to date, EPA believes that compliance with the court order will be extremely difficult and may prove contrary to the public interest.

We feel that there are four main reasons for continuing to exclude classes and categories of point sources as we had originally intended.

First, EPA must issue an overwhelming number of permits. There are an estimated 1.5 million animal feeding operations in this country, many of which would be within the definition of concentrated animal feeding operations or feedlots; a huge but undetermined number of storm sewer outfalls (over 50,000 in the State of Michigan alone), and uncounted acres of agricultural and silvicultural activities drained by tile or ditch systems.

Second, issuance of a permit to each owner or operator responsible for a point source in these categories imposes an unprecedented administrative burden on State and Federal agencies.

Already limited by financial and personnel resources, these agencies would be unable to administer effectively and enforce this extension of the permit system.

At a recent public hearing, the State of Michigan stated that such an extension would necessitate its relinquishment of NPDES delegated authority.

Several other NPDES States have indicated informally that the increased administrative burden (as well as intense opposition generated by agricultural interests) would probably force the States to turn back the NPDES program to EPA. That would have extremely adverse consequences on our ability to clean up the Nation's waterways, Mr. Chairman.

As I will briefly outline later, one of the options EPA is considering—combination permit plan—to respond to the court order does impose a burden upon State agencies.

While this option would involve State resources, we understand that this type of arrangement is already in place in many of the States that are greatly impacted by the feedlot problem.

Consequently, we feel that this type of program would affect to a much lesser extent available State resources than would some of the other options being considered.

Third, even if these permits could be processed and issued, in the vast majority of instances the result would be no significant decrease in pollutant discharges. The expenditure in time, dollars, and resources necessary to process applications for these point source permits would be grossly disproportionate to the water quality benefits obtained.

This is most apparent in the storm sewer category where the state of knowledge and technology are such that only information gathering activities and monitoring could be required in permits issued.

Fourth, ignoring other problems, there remains the difficulty of establishing effluent guidelines for pollution control from the excluded categories in technical terms. Traditional numerical pollution limitations may not be the most appropriate mechanism for dealing with the pollution problems for some of these categories of point sources.

Notwithstanding these problems, EPA is under court order to develop the regulations. It is therefore proceeding to do so in a manner which will meet the requirements of the order and will result in a responsible and administratively manageable program.

The first set of regulations, which must be proposed in the Federal Register by November 10, consider alternatives relating to the concentrated animal feeding operation and storm sewer categories.

Among the alternatives considered for extending the NPDES permit system to these categories are a conventional permit-by-permit approach and a general permit approach which does not require application or permit forms for every individual point source.

For the concentrated animal feeding operation category, a third alternative is proposed in which State officials are called upon to certify which concentrated animal feeding operations can meet water quality objectives without being subject to the permit program. Any person owning or operating a concentrated animal feeding operation would have an opportunity to take whatever measures are necessary to minimize or eliminate his discharge of pollutants.

Then, if after a visit or inspection, appropriate State authorities indicate that a particular animal feeding operation is not subject to the permit program, that facility would not be required to apply for or obtain a permit.

A fourth alternative is also proposed for the concentrated animal feeding operation category. Here "point source" is distinguished from nonpoint source following the clear legislative history of the act. This results in a numerical cutoff for smaller feedlots.

If this alternative is chosen, it is expected to have the least impact upon the feedlot industry while still maintaining jurisdiction over the largest operations.

We are hopeful that data and suggestions supplied by the public in response to these proposed regulations will aid a final determination of the best approach for satisfying the requirements of the court order.

Our problem remains, however, in that most imaginative methods of dealing with these problems appear to be most questionable legally, since the statute appears to require permits with effluent limits rather than allowing alternative types of controls on point sources.

Many of these categories simply do not lend themselves to traditional end of the pipe controls, or measurement of control effectiveness by effluent limits, Mr. Chairman.

While individually these sources are small, in the aggregate they can be a significant pollution problem. Effective methods for control of these pollutant discharges are under consideration.

In the long run, it is desirable to institute effective pollution controls for a number of these sources.

In dealing with the problem, in most instances, approaches will be required other than prescribing end-of-the-pipe effluent discharge limitations as we generally do under the present permit system.

We believe these pollutant sources would be better regulated at the State and local levels, and not by EPA through a regulatory program at the national level. We will be working with State and local governments, agencies, and interested parties toward this end.

We are presently considering amending the Federal Water Pollution Control Act to alleviate the problems which I have outlined above and we expect to make our recommendations in the near future.

Mr. Chairman, that concludes my formal remarks. I and Mr. Printz will be glad to respond to any questions that you or the other Senators might have. Thank you.

Senator NELSON. Thank you very much, Mr. Legro.

[The prepared statement of Mr Legro follows:]

STATEMENT OF HON. STANLEY W. LEGRO, ASSISTANT ADMINISTRATOR FOR ENFORCEMENT, ENVIRONMENTAL PROTECTION AGENCY

Mr. Chairman, I welcome the opportunity to appear before your Committee today to discuss the views of the Environmental Protection Agency on the control of pollution from feedlots.

In 1973, EPA promulgated regulations which excluded certain categories of point sources from the requirement that they obtain NPDES permits. These included discharges from separate storm sewers and from agricultural and silvicultural activities, including irrigation return flows and relatively small feedlots. EPA's decision to exclude these point sources was based on the conclusion that pollution abatement for most such discharges is better achieved by application of process changes which prevent pollutants from entering the point sources, than by end-of-pipe treatment. EPA also recognized that it is administratively unworkable to issue individual site-specific permits to all such point sources.

Thereafter, NRDC challenged EPA's authority to make these exclusions from the NPDES permit program by filing a civil action, ***NRDC* v. *Train*,** in the District Court for the District of Columbia. The court ruled that EPA may not exclude point source discharges from the permit program. On June 10, the court ordered EPA to propose and promulgate regulations extending the NPDES permit program to those point sources previously excluded.

In attempting to comply with the court order, EPA has solicited and received information, statistics and advice from other Federal agencies, State and local officials, agricultural and environmental groups, and interested members of the public. In addition to hearings held in Washington, D.C., EPA has also held widely publicized public hearings in Boston, Chicago, Omaha, and Dallas, at which a wide range of testimony and information has been received. Based on this reaction and EPA's experience in the administration of the NPDES program to date, EPA believes that compliance with the court order will be extremely difficult and may prove contrary to the public interest. We feel that there are four main reasons for continuing to exclude classes and categories of point sources as we had initially intended.

First, EPA must issue an overwhelming number of permits. There are an estimated 1.5 million animal feeding operations, many of which would be within the definition of concentrated animal feeding operations or feedlots; a huge but undetermined number of storm sewer outfalls (over 50,000 in the State of Michigan alone); and uncounted acres of agricultural and silvicultural activities drained by tile or ditch systems.

Second, issuance of a permit to each owner or operator responsible for a point source in these categories imposes an unprecedented administrative burden on State and Federal agencies. Already limited by financial and personnel resources, these agencies would be unable to administer effectively and enforce this extension of the permit system. At a recent public hearing the State of Michigan stated that such an extension would necessitate its relinquishment of NPDES authority. Several other NPDES States have indicated informally that the increased administrative burden (as well as intense opposition generated by agricultural interests) would probably force the States to turn back the NPDES program to EPA. As I will briefly outline later, one of the options EPA is considering (combination permit plan) to respond to the court order does impose a burden upon State agencies. While this option would involve State resources, we understand that this type of arrangement is already in place in many of the States that are greatly impacted by the feedlot problem. Consequently, we feel that this type of program would affect to a much lesser extent available State resources than would some of the other options being considered.

Third, even if these permits could be processed and issued, in the vast majority of instances the result would be no significant decrease in pollutant discharges. The expenditure in time, dollars, and resources necessary to process applications for these point source permits would be grossly disproportionate to the water quality benefits obtained. This is most apparent in the storm sewer category where the state of knowledge and technology are such that only information gathering activities and monitoring could be required in permits issued.

Fourth, ignoring other problems, there remains the difficulty of establishing effluent guidelines for pollution control from the excluded categories in technical terms. Traditional numerical pollution limitations may not be the most appropriate mechanism for dealing with the pollution problems for some of these categories of point sources for end-of-pipe control.

Notwithstanding these problems, EPA is under court order to develop the regulations. It is therefore proceeding to do so in a manner which will meet the requirements of the order and will result in a responsible and administratively manageable program. The first set of regulations, which must be proposed in the Federal Register by November 10, consider alternatives relating to the concentrated animal feeding operation and storm sewer categories. Among the alternatives considered for extending the NPDES permit system to these categories are a conventional permit-by-permit approach and a general permit approach which does not require application or permit forms for every individual point source.

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We are hopeful that data and suggestions supplied by the public in response to these proposed regulations will aid a final determination of the best approach for satisfying the requirements of the court order. Our problem remains however, in that most imaginative methods of dealing with these problems appear to be most questionable legally, since the statute appears to require permits with effluent limits rather than allowing alternative types of controls on point sources.

While individually these sources are small, in the aggregate they can be a significant pollution problem. Effective methods for control of these pollutant discharges are under consideration. In the long run, it is desirable to institute effective pollution controls for a number of these sources. In dealing with the problem, in most instances, approaches will be required other than prescribing end-of-the-pipe effluent discharge limitations as we generally do under the present permit program. We believe these pollutant sources would be better regulated at the State and local levels, and not by EPA through a regulatory program at the national level. We will be working with State and local governments, agencies, and interested parties toward this end.

We are presently considering amending the Federal Water Pollution Control Act to alleviate the problems which I have outlined above and we expect to make our recommendations in the near future.

That concludes my remarks, Mr. Chairman. I will be glad to respond to your questions.

Senator NELSON. On page 2, the last sentence of the second full paragraph states, "we feel that there are four main reasons for continuing to exclude classes and categories of point sources as we had initially intended."

Assuming that is the best approach, how do you reconcile this methodology with the court order, which says that you cannot exclude anything designated as a point source.

Mr. LEGRO. Yes, sir, Mr. Chairman, I think the question raises an important distinction.

The court indicated, in referring to the legislative history of the 1972 amendments to the Federal Water Pollution Control Act, that there was a substantial amount of authority vested in the Administrator to distinguish by definition between point sources and nonpoint sources.

Now, in the act, "concentrated animal feeding operation" is defined as a point source, but again, the court indicated in its opinion that the Administrator would have a substantial amount of authority to determine by definition what constitutes an animal feeding operation. The Administrator, by defining a "concentrated animal feeding operation" as a nonpoint source would be able to exclude a lot of these smaller feeding operations. Thus the problem probably could be addressed at least to a measurable extent by a definition distinguishing point source from nonpoint source.

When we start dealing with storm sewers which appear to be point sources; that is, they have pipes coming out like industrial sources, we have a great deal of difficulty under the court order.

Senator **Nelson**. Maybe I misunderstand your answer.

If you defined something as a point source, the court has said that you may not exclude it.

Mr. **Legro**. Yes, sir, that is correct, if it is a point source.

Senator **Nelson**. So you are not saying that you intend to continue to define point sources, and exclude some point sources, are you?

Mr. **Legro**. Well, the court said we could not exclude classes or categories.

It left open some small possibility that we might be able to exclude, whether on the basis of discretion, or on some other basis, some point sources, but it indicated we could not exclude classes or categories. The options that we have right now under the court order, unless some remedial legislation is passed in regard to animal feeding operations, are either to issue permits for them, by the traditional permit approach, which we believe would be unworkable, or some different type of approach such as permit by regulation, or we would have to redefine them as nonpoint sources.

Now, the problem is that if we take the approach of going back, and trying to make the exclusions that the Administrator previously made by defining these operations as nonpoint sources, this decision might be subject to litigation too.

In other words, the court has not said we had absolute discretion within the definition of point sources, which would suggest that we have some latitude, and that is a possible approach.

Senator **Nelson**. The legislative history involves a colloquy on the floor, as you are well aware, between Senator Dole and Senator Muskie. I am going to read in the record an excerpt from the legislative history of the Water Pollution Control Act Amendment for 1972, volume II, January 1973, Serial No. 93-1, pages 1298-1299:

> If a man-made drainage ditch, flushing system or other such device is involved and if any measurable waste results and is discharged into water, it is considered a 'point source.' Natural run-off from confined livestock and poultry operations are not considered a 'point source' unless the following concentrations of animals are exceeded: 1,000 beef cattle, 700 dairy cows, 290,000 broiler chickens, 180,000 laying hens, 55,000 turkeys, 4,500 slaughter hogs, 35,000 feeder pigs, 12,000 sheep or lambs, 145,000 ducks. Any feedlot operations which result in the direct discharge of waste into a stream that transverses the feedlot are considered point sources without regard to number of animals involved.

I would like to say that the measure we are now considering is legislation which at least in a first stage, the first 5 years, is an enormous step forward in our common struggle to restore the quality of our environment.

It is legislation which will establish a specific timetable, with the achievement of natural water quality standards, and I believe it is exceeded during these first phases, by requiring the best practical technology available.

It also requires periodic review of applicable regulations so they can be tightened from time to time in the light of technological developments.

Now, the legislative history of the Federal Water Pollution Control Act Amendments of 1972 seems clear on one point, the Administrator of the Environmental Protection Agency does have discretion in determining by regulation what is and what is not an agricultural point source pollution.

In fact, Judge Flannery's recommendation, his memorandum opinion that accompanied his June 10, 1975, court order states, "the act does seem to indicate at least some agricultural sources are apparently of a nonpoint source nature, and are not subject to the more detailed requirements applicable to point sources," and can you tell me, why has not the Environmental Protection Agency followed the congressional intent, and Judge Flannery's direction, and attempted to define by regulation the term concentrated animal feeding operation, that appears in the statute section 502 sub 14.

Mr. LEGRO. I think that is a very good question, Mr. Chairman. I think it gets right to the point. One of the alternatives that we are considering in proposing regulations in response to Judge Flannery's June 10 order is a definitional approach which would exclude these categories that you have mentioned, based upon the colloquy that occurred between Senators Muskie and Dole. However, assuming that the courts went along with this decision, and found the legislative history to be sufficiently persuasive, so that they did not challenge it, we would still be left with the other problems raised in Judge Flannery's decision. Everyone, I think, seems to agree, that storm sewers do fall within the definition of point sources.

I mentioned earlier that in the State of Michigan alone, there are over 50,000 storm sewer outfalls. I think you have indicated a very good approach, which would deal with part of the problem, and might very well help out as far as a problem of concentrated animal feeding operations. Even there, however, Mr. Chairman, I think it could have a potential problem, as you note, in addition to the numerical limitations, Senator Muskie talked about a manmade drainage ditch, a flushing system, and so forth, and said that those would be considered to be concentrated animal feeding operations, that is to say point sources. We could very well have a problem with a relatively small dairy farmer, which we would really like to exclude from the program, and yet could not because he happens to have done more than his neighbor by putting in a better drainage system. So there are problems with that approach, but certainly it is the best approach, I think you are certainly correct that this approach is available to us under Judge Flannery's interpretation of the law.

Senator NELSON. There are of course tens of thousands of drainage ditches, I believe you said 50,000, storm sewers.

Mr. LEGRO. Yes.

Senator NELSON. Tens of thousands of drainage systems designed, developed over the years, which were not drainage systems for the purpose of disposing of wastes, it is a watershed management question, and the runoff of rainwater onto the pastures, fields, what have you, in order to manage the flow of water and stop erosion. You are not proposing that the EPA regulate each and everyone of these 1.5 million operations.

Mr. LEGRO. Well, of course the Agency's position is that we would like to be able to exclude all of these small feeding and dairy operation centers.

However, I merely wanted to point out to you that there is at least some substantial risk in taking the approach of trying to accomplish the exclusion by defining point source versus nonpoint source. In the legislative history which you read to us, in addition to making the numerical limitations, Senator Muskie also said that if a manmade drainage ditch, flushing system, or such other device involved, results in measurable waste discharged, this will be considered a point source, so we would be concerned.

We would be concerned that in trying to exclude the small farmers, and small dairymen we want to exclude, that we might subsequently find ourselves in further litigation, if we try to do it by defining them as a nonpoint source, particularly where some of them may fall into the point source category by having some type of drainage ditch.

I think that approach is probably a good approach available to us under the law, but I merely wanted to point out to you the potential pitfalls in taking that approach. We might be subject to litigation regarding whether or not we have accurately defined nonpoint source within the meaning of the law in legislative history, Mr. Chairman.

Senator NELSON. Well, if you are talking about a manmade drainage ditch to which Senator Muskie referred in his colloquy, I think it is pretty clear from the discussion and the other points he made, that he thought it is a manmade ditch that drains a concentrated feeding operation.

If all we are talking about here is a water system, or water systems, drainage systems, that are for the purpose of draining the natural drainage of the land in the watershed, whether or not it is a large farm or a small farm, it does not seem to me to make any difference, if that is its purpose, and it is not a drainage ditch specifically from a concentrated feeding lot, they are not covered under the law anyway.

Mr. LEGRO. We would agree with your interpretation.

Senator NELSON. You agree with that?

Mr. LEGRO. Yes, sir.

Senator NELSON. I have more questions, but I do not want to take all the time.

Senator Stafford?

Senator STAFFORD. Thank you, Mr. Chairman.

I am glad the record is beginning to show that we are talking about the dairy farms of this country, as well as feedlot operations out in the Midwest.

I am not sure today what the average size of a northeastern dairy farm is, but I would speculate it might have about 50 cows, plus young stock, and calves that are a necessary part of the operation.

I noticed that, Mr. Legro, in the outset of your statement, if I can find it again here, that you said if a permit had to be issued to every point source under your definition, it would be administratively unworkable to do so.

That is your testimony; is it not?

Mr. LEGRO. Yes, sir.

Senator STAFFORD. I believe my question is this, instead of excluding changes in categories of point sources, why not, Mr. Legro, consider these agricultural operations as nonpoint sources, which is what the Congress intended in the first place?

Mr. LEGRO. Senator Stafford, I think that would be a workable approach, assuming we did not have a problem in the court, in quibbling over whether or not we were really able to exclude many of these smaller dairy operations as we would like.

Unfortunately, however, it would still leave us with a very substantial problem relating to the storm sewer outfalls which apparently still fall within the category of point sources, and do not really lend themselves to definition as nonpoint sources. As I indicated, there are over 50,000 storm sewer outfalls in the State of Michigan alone according to our information. They really do not lend themselves to any kind of effective end of the pipe treatment, because they tend to flow when it rains, and what comes out the end tends to be what is lying on the street when the rain comes down. One reason for possibly considering the legislative approach, which would permit the Administrator to exclude classes of categories, is that it would be comprehensive, and allow dealing with the problem raised by the storm sewers, as well as the problem raised by the concentrated animal feeding operation.

Senator STAFFORD. This Senator is familiar with feedlot operations where large numbers of cattle are fed, and I am not really familiar with the size of dairy herds out in the Midwest, and Senator Nelson's State, for example, I am not too familiar with that, but in the northeastern part of the country, I have actually seen storm sewers connected with dairy farms of my State, and those around it, and I think they are isolated from storm sewers, and the two problems do not go hand in hand.

Mr. LEGRO. I think that is correct, Senator, the two do not necessarily have to be tied together.

I think the reason the Administrator took the approach of dealing with storm sewers and feedlots together in the first instance, was that both of them tended to be very difficult to try to regulate by traditional methods. The cost involved in regulating them would be very high and the administrative burden would be very high. I agree with you, I do not think they necessarily have to be dealt with together.

Senator STAFFORD. Coming back to the situation of why not consider an agricultural operation as nonpoint source, this would leave feedlots to be regulated under section 206 of the act, a comprehensive planning management on a regional basis, and other planning mechanisms; would it not?

Mr. LEGRO. Yes, sir, it would be. We believe that ultimately State and local controls under 208 would be the effective way to deal with these essentially nonpoint sources. EPA has neither the ability nor the desire to try to regulate small farms, and things of that nature.

This should be done at the State and local level under 208, as you point out, Senator.

Senator STAFFORD. I noticed on the last page of your statement, that some recommendations will be forthcoming.

Are you in any position now, beyond what you just testified, to suggest to these committees what those recommendations might be?

Mr. LEGRO. Yes, Senator, I believe at least in general terms, I could. In general the legislation we are considering as one possibility, obviously subject to various types of review; would give the Administrator the administrative authority to exclude classes of categories of point sources from the permit program.

In fact, what we are talking about is permitting any man to do what he did in regard to these feeding operations, agricultural, storm sewers, and so on, prior to Judge Flannery's order.

That approach would alleviate the potential burden on the small farmers and dairymen, as well as municipalities around the country that deal with these storm sewer outflows.

Senator **Stafford**. Mr. Chairman, I am prepared to yield now so we can pass the time around.

Senator **Nelson**. Senator Brock?

Senator **Brock**. I think most of my questions have been answered.

Senator **Nelson**. In your testimony, you stated that you had hearings in Boston, Chicago, Omaha, and Dallas.

I have not seen the transcripts of the hearings, but what were those witnesses saying in essence?

Mr. **Legro**. Mr. Chairman, because I would just be reporting what was reported to me, I think it would be better if we had Mr. Printz, who has attended all of these hearings, answer your question directly.

Senator **Nelson**. Please proceed, Mr. Printz.

Mr. **Printz**. Thank you, Mr. Chairman.

I did conduct the hearings in the four cities just mentioned, and I think it would be fair to characterize a response of the dairy people as being very surprised that we would attempt to expand the permit program into these areas.

They felt it was inappropriate to do so.

Senator **Nelson**. In what areas?

Mr. **Printz**. Into the areas of the small dairy operations, small animal feeding operations, whether they be beef fed, poultry, or otherwise, as the court has directed us to do.

I believe it would be fair to say that we have a very sensitive industry, one that we can expect a lot of discussion with, even without the additional pollution control activities.

We did not hear too much with regard to economics, primarily because we were not able to tell them what types of controls would be imposed, through any permits that would be issued.

We were there to gather their views as to how the program could be expanded in accordance with the court decision.

Senator **Nelson**. Have those hearings been printed?

Mr. **Printz**. No, sir, they have not. We have developed summaries of these hearings, but we have not printed them.

We called them town hall style meetings, where there is great opportunity for dialog, between agency personnel, and those that would be regulated by any regulations we would subsequently develop.

Senator **Nelson**. I have some other questions to pursue along that line. You stated the EPA would be suggesting amendments to the law, allowing the administrator to exempt certain classes of point sources from compliance. Is that understanding correct?

Mr. **Legro**. I think we would very likely be proposing an amendment which would permit the Administrator to exempt classes or categories of point sources from the permit program.

In other words, presumably based upon what the Administrator previously did, this would allow him, for instance, to exempt the dairy feeding operations with less than 700 heads, of beef feeding operations with less than 1,000 heads.

In other words, define them as point sources, but by an amendment authorize the Administrator to exempt these categories.

The other approach, as you suggested, Mr. Chairman, at least with regard to concentrated animal feeding operations, would be a definitional approach, based upon the Muskie-Dole colloquy, that is to say, try to exempt them by saying they are really not point sources.

That is a possible approach, which may still be subject to challenge in the courts, as to whether or not the limits really are applicable.

In the language you quoted, Senator Muskie used the term concentration, but he really used it only in a numerical sense. He said a thousand head, but he had no area factor in there.

In other words, it was not a thousand head in a certain space. Presumably, we could come out with a thousand head, and then have that challenged in court—we cannot be sure of that. The approach you suggested is, however, certainly one seriously worth considering.

Senator **Nelson**. On that statutory exemption approach, don't you think that would create a whole series of other problems throughout the administration of the whole law?

Mr. **Legro**. I do not believe that it would.

First of all, that kind of approach would enable us to deal with the storm sewer problem, which otherwise probably cannot be dealt with by defining it as a nonpoint source.

I would not say that, without reservation. Obviously, if we do not get one approach, then we might have to try to issue permits for all of these storm sewers, an approach we believe is totally unworkable. One possibility is to define a substantial number of storm sewers, perhaps below a certain size or meeting other criteria as nonpoint sources.

I think that you assume—and I would certainly have to assume this—the good faith of the Administrator in going about implementing the laws, and working toward what I know is the common goal that all of us share in cleaning up the waterways of the country. I do not think there is any substantial reason to fear the Administrator will use this class of category, or exemption power to exempt categories of industrial discharges or others that should really fall into it. Certainly, if we should propose language, we would limit the language as far as the Administrator's power to exclude categories, concentrated animal feeding operations, agricultural, and others. I would not propose to give the Administrator power to exempt categories of industry.

Senator **Nelson**. It does authorize the Administrator to define a concentrated feeding operation, does it not?

Mr. **Legro**. Yes, sir, that is correct, and that would be consistent with the approach you have suggested. We are exploring, with regard to the dairy and beef type feeding operations, the nonpoint source definitional exclusion, to deal with the problem.

Senator **Nelson**. You have not, as of now, attempted to define concentrated feeding lots operations as used in the statute.

Mr. **Legro**. In the regulations that we will probably propose in response to Judge Flannery's court order, I believe there is at least a substantial likelihood that we would adopt that approach, either as the only approach, or one of several alternate approaches.

Senator **Nelson**. Well, the Department of Agriculture, in their testimony, and I will not necessarily expect you to address yourself in any detail at the moment, since you may not have seen the testimony, and the Environmental Protection Agency will be back at the end of the hearings to comment on the testimony we have taken.

Mr. LEGRO. Yes, sir, and I would be happy at that time having reviewed their testimony, to answer any questions, or make any comments the chairman might like.

Senator NELSON. I think it would be well to look at that testimony, because we will want to ask questions about it.

The U.S. Department of Agriculture suggests that in setting the guidelines, full consideration be given to all alternatives, including: (1) develop a formula to define animal feeding facilities based on factors such as distance to a stream, housing type, climate, and topography; (2) increase responsibilities of States and designating lifestock operations that require a permit; (3) redefine the point source category; (4) use a concept of "best management practices," and (5) issue general area or block permits. We would like to have you address yourself to that, as well as other suggestions that will be made in the testimony, when the Environmental Protection Agency returns at the conclusion of the hearings tomorrow.

Mr. LEGRO. Yes, sir; those are all matters which we have considered, and do have some thoughts on, but I would appreciate the opportunity to read their precise testimony, and then perhaps I could respond to it.

Senator NELSON. Now, could not the Environmental Protection Agency, pursuant to the act, and Judge Flannery's decision, and memorandum, develop an arrangement of categories, and subcategories of pollutions?

Do you understand the question?

Mr. LEGRO. I apologize, Mr. Chairman. I heard the question, but I did not understand the import of it, sir.

Senator NELSON. Well, maybe I should rephrase it.

Could not the Environmental Protection Agency pursuant to the Act and Judge Flannery's decision, develop an arrangement of categories and subcategories of pollution in dealing with classes of point sources?

Mr. LEGRO. Yes, sir, that is entirely correct. What we have done with the regulations is to say that we would issue a permit, for instance for beef feeding operations of more than 1,000 head.

A possibility would be to say that instead of having no permit program at all below a certain figure as the Administrator proposed to do in the regulations and as was challenged in the court, instead we would have to have a several tier system. One possibility would be a three-tier system, the top tier would be over 1,000 head, and you have to get an individual permit, the middle tier might be from 300 to 1,000 head, and you would not have to get an individual permit. It would be a permit by regulation, and all the individual farmers, or dairymen would have to do is just file a registration statement, indicating certain things were being done. Perhaps below 300 head or so some other number, you could define what is a nonpoint source, and you have no requirements. You could use a tier system in accordance with Judge Flannery's decision, I believe.

Senator NELSON. What problem does the Environmental Protection Agency have in giving recognition to the content of best animal waste management practices, as being equivalent to that of guidelines?

If you are not prepared to answer that now, you can respond to it later.

Mr. LEGRO. I am prepared to answer that, Senator.

We believe that there are a couple of answers to that.

First of all, we do not want to see the Environmental Protection Agency telling farmers and dairymen how to run their farms.

We believe that is best left to State and local agencies, and that is the point I want to make, as clear as possible. The Environmental Protection Agency does not desire to tell individual farmers and dairymen how to run their operations.

Now, second, apart from that, there appears to be a significant question as to whether or not a best management practice approach would be consistent with the law.

There is a lot of judicial opinion to indicate what the law contemplates as end of the pipe affluent limitations. The Environmental Protection Agency has the power to tell people what must be coming out of the end of the pipe, but not necessarily the authority to tell them what to do to control it. So we have not only legal opinion but a basic policy determination, to the effect that the Environmental Protection Agency really does not want to be telling farmers and dairymen how to run their operations.

We want to leave that to State and local government. There is a substantial question as to whether or not under the law, EPA has the power to issue a permit calling for best management practices rather than end of the pipe effluent limitations, Mr. Chairman.

Senator NELSON. The 1983 deadline set for best available technology, could not the effluent guidelines be defined in terms of the best waste management practices?

Mr. LEGRO. I think there would be many advantages from a policy sense in approaching strictly the dairy feedlot operation in a manner that you suggest, Mr. Chairman, that is to deal with management practices; however, it is our view, and our general counsel's view that there are substantial questions under the law as to whether or not the act permits management practices.

It may well be that even in dealing with the 1983 standard best available technology, that we must have permits to deal with the pipe effluent limitations.

Certainly the management practices approach has a lot to commend itself in preference to an effluent limitation approach, in diary operations, and feedlot operations, farming, and things of that nature.

We would agree from a policy point of view, if we could do it under the act, the way you suggest. It has a lot of advantages.

Senator NELSON. It seems to me, at least at the first impression, that effluent guidelines, and best available technology, and effluent guidelines, can be established in accordance with the best waste management practice.

Also, it seems to me, all of them have to be looked at in accordance with the provision in the statute that mandates the effluent guidelines that states they must be economically achievable—whatever that means.

Mr. LEGRO. Well, I think certainly we do want to take into consideration economic considerations. We are not only required to do so under the act, but also I think it is perfectly appropriate from a policy point of view. From a policy point of view, I think what you say has a great deal of merit, as far as looking at management practices, rather than traditional end-of-the-pipe effluent limitations applied to industry. Again there is a serious question as to whether or not we would be permitted to take that approach under the act.

From a policy point of view, I think what you suggest might make a lot of sense.

Senator NELSON. I am not a practicing lawyer anymore, so I am not getting paid for legal opinions, and if I am getting paid for them, they are probably not very good, but would it not be worthwhile to ask your general counsel for a legal opinion on the question as to whether or not the 1983 effluent guidelines, can be defined in terms of best available waste management practice. If they can be drafted that way, it would be a substantial step in making it possible to establish a practical definition that is acceptable.

If EPA cannot legally draft such a limitation, then that may be the place where an amendment might be needed. In any event, I think it would be worthwhile to have an opinion for the record at some stage from counsel on this point. We would be perfectly happy, for the record, also to have an opinion from any other source, on whether or not that interpretation would be permitted under the language of the statute.

Mr. LEGRO. I agree with that suggestion. In fact we have discussed this matter at length, not only among the attorneys that worked with me for the Office of Enforcement, but also with the Office of General Counsel within the Environmental Protection Agency. While a final binding opinion has not yet been written, the indication we have is that it is very likely that there will be an option that we are not able to use management practices for effluent limitations. That is not something we have completely explored. Certainly we agree with you, if we come to the conclusion that it can be done under the law, Mr. Chairman, it is something that affords many advantages over trying to deal with agriculture and dairymen the same way we deal with a large pulpmill or steelmill.

Management practices certainly offer many advantages over using pipe effluent limitations.

Senator NELSON. Just one brief comment: Some time ago you in response to the question of establishing and requiring best animal waste practices—the response was you did not think the EPA should be telling farmers how to run their farms.

At the same time, when you established an effluent guideline, you would be doing the same thing anyway.

Mr. LEGRO. Frankly, that is an issue that has caused me some concern. When you talk about best practical technology, it may well be that it is accomplished by setting the effluent limitations, as you point out. The practical effect of that may be to tell the dischargers what process they are going to have to use. I think you put your finger on exactly the strongest argument in favor of supporting the authority of the EPA to prescribe management practices, or some type of process controls. You are really only doing directly what you accomplish indirectly by effluent limitations of many industries.

I think you have made the strongest argument for it.

Senator STAFFORD. Mr. Chairman, just one or two final questions.

Mr. Legro, if you wish to, you can answer them tomorrow, if that will be more convenient for you, but here they are.

First of all, has EPA discussed the problems of point source issues affecting the dairy farms and feedlot farms with representatives of the Extension Service across the country?

Mr. LEGRO. I am informed that we have, Senator.

Senator STAFFORD. Have you also discussed them with representatives of conservation districts throughout the country?

Mr. LEGRO. Mr. Printz might answer that, as well as other people on the staff. Mr. Printz has traveled extensively around the country. He has attended the formal meetings I outlined earlier, and a number of informal meetings, and perhaps I could ask Mr. Printz to comment briefly on that.

Senator STAFFORD. I think it would be well to get some second-hand testimony on the regard.

Mr. PRINTZ. In addition to the meetings discussed earlier, I have myself met with people from the Department of Agriculture and the Extension Service, and with the Soil Conservation Service, and with other components of that, as well as the Department of Interior.

We have been out in the field, we have talked with the farm community all across the country, in attempting to determine what is the best way to regulate that area, if regulation ought to be carried out.

We have met with a number of State agencies. I personally met with the State engineers, and interstate and water pollution control administrators as well.

Senator STAFFORD. Thank you.

Now, Mr. Legro, coming back to the feedlots and stormsewers, how many States have assumed jurisdiction over the permit program under the act?

Mr. LEGRO. I believe the number is approximately 26, North Carolina just came in this past week, and New York is probably going to come in next week.

I believe it is approximately 26.

Senator STAFFORD. How many section 208 region planning agencies have been set up, how many more are expected to be formed?

Can you give us a status report for the record on this?

Mr. LEGRO. I would like to get that information, and make sure that my numbers are precise, and submit that for the record, if I might, Senator.

Senator STAFFORD. Very good.

[The information referred to follows:]

By the end of Fiscal Year 1975, 149 agencies had been designated by the local governments or State Governors and had been approved by EPA.

Senator STAFFORD. Has EPA provided any municipal waste water treatment plants which deal with stormwater or feedlot pollution sources?

Mr. LEGRO. That is something that I would want to check on to be certain my understanding is correct.

Generally we have not, but there may be one or two instances in which some EPA grants have gone out.

I would like to check that and put a precise response in the record, Senator.

[The information referred to follows:]

With regard to storm sewer demonstrations, approximately $2 million has been spent in grants for storm sewer demonstrations and approximately $26 million has been spent in grants for combined sewers.

While there is no prohibition under the law from using title II funds for separate storm sewer construction funding, the Agency has made a determination that this is a lower priority than municipal waste water treatment facilities and accordingly does not allocate the title II funds for separate storm sewer construction.

Senator **Stafford**. I might ask whether or not any grants have been available for demonstration projects, research, and so forth, in this area, and you may provide that information, either for the record, or *tomorrow, when you come back.*

That is all I have.

Mr. **Legro**. We will get that information for you, Senator.

My impression is that while generally we have not provided money, there could be a couple of instances where there might be demonstration projects which fall into that category. Certainly from a financial point of view, it would be relatively small in magnitude.

Senator **Nelson**. Senator Brock.

Senator **Brock**. You have less than 3 weeks to comply with the court order with regulations, is that correct?

Mr. **Legro**. That is correct, the 10th of November is the date.

Senator **Brock**. And when will you have your specific legislative recommendations?

Mr. **Legro**. Well, as far as the compliance with the court order, I think you could break that down into two categories.

One, we will be very likely proposing some legislation through the administration.

On the other hand, any legislation would not be enacted before we have to comply with the court order, so we are proceeding with the development of regulations. Those regulations will probably be out for agency review by the end of this week, and published by the 10th of November, Senator.

Senator **Brock**. I just was asking, because I think you are under some time restraints, and it seems to me, we should be in a position to expedite the legislative process, if necessary.

Mr. **Legro**. I would like to say in response to that, I think it does raise a very good question. The court ordered deadline is November 10th for publishing proposed regulations for concentrated animal-feeding operations and storm sewers and then we would have 4 months before those became final. We have until February 10th to publish proposed regulations with regard to agriculture and silviculture.

Now, in any regulations that we propose, again we would propose a date, sometime after the effective date of the regulations, before anyone would have to file an application for a permit, so I do believe that the legislative process would have time to work, Senator, without causing any undue act upon any small farmer, through having to file an application for a permit.

Senator **Brock**. I hope that I share your optimism about the legislative process.

I have no further questions.

Senator **Nelson**. Do you have a timetable on when the Agency is going to promulgate a draft effluent regulations for the categories of point sources exempted by the February 1974 regulations?

Mr. **Legro**. At this point, it is fair to say we do not have any time estimate as to when such regulations and guidelines will be forthcoming.

Quite frankly, particularly with regard to agriculture, storm sewers, at this point, I do not believe that the Agency has that degree of knowledge or expertise to permit it to promulgate guidelines.

Senator **Nelson**. Are there any statutory requirements or court orders respecting a deadline for promulgation of guidelines?

Mr. **Legro**. The Agency is, Mr. Chairman, under a court order with regard to promulgation of various categories of guidelines.

The court order does prescribe some time-frame.

I would have to take a look at it to determine what possible impact that might have on this subject matter.

Senator **Nelson**. Are you saying that you are not certain whether or not the statute, or a court order specifically sets a deadline for promulgation of effluent guidelines?

Mr. **Legro**. Well, there is a court order which has interpreted the statute as requiring the EPA to promulgate various classes of categories of guidelines.

I am not able to say at this time, we will find it out, and put it in the record, Mr. Chairman.

In other words, the basic problem we have right now, regardless of the existence of any deadline order, is a general acknowledgement by the Agency as to a very difficult problem, and perhaps a lack of ability to promulgate guidelines, certainly as to end-of-the-pipe effluent limitation with respect to some of these categories like storm sewers.

Senator **Nelson**. Would it not be necessary at that time, at least by that time, to find out?

Mr. **Legro**. Yes, sir, that is correct.

Certainly, I think in connection with the response to Judge Flannery's order, it is going to be necessary to review the definition of concentrated feeding operations. It may well be that the most appropriate response to that order is the approach you suggested, that is the definitional approach which would take concentrated animal feeding operations, out of the point source category.[1]

Senator **Nelson**. I think those are all of the questions I have until tomorrow afternoon.

Thank you very much.

Mr. **Legro**. Thank you very much, Mr. Chairman, and Senator, and obviously the questions show a great deal of interest, and preparation on the part of you and your staff. We welcome the opportunity to come up here and answer such well focused and directed questions, and we will attempt to answer the several questions you raised earlier prior to the hearing tomorrow, and we look forward to supplementing the record.

Senator **Nelson**. Our next witness will be Mr. J. Dawson Ahalt, staff economist, Office of Secretary of Agriculture.

The committees are pleased to welcome you here today.

You may present your testimony however you desire.

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[1] The request for EPA's memorandum opinion dealing with best management practices as a basis for either permit conditions or effluent guidelines will be furnished to the committee upon its completion.

STATEMENT OF J. DAWSON AHALT, STAFF ECONOMIST, OFFICE OF SECRETARY OF AGRICULTURE, U.S. DEPARTMENT OF AGRICULTURE

Mr. AHALT. Thank you very much, Mr. Chairman.

If it meets with your approval, I would like to summarize my testimony, and insert the testimony into the record.

Senator NELSON. The testimony will be printed in full in the record, and you may present it as you desire.

[The prepared statement of Mr. Ahalt follows:]

Statement by J. Dawson Ahalt, Economist, USDA, before Senate Select Committee on Small Business on Pollution Abatement Regulations and Family Farms, October 21, 1975

Mr. Chairman, members of the Committtee, I appreciate the opportunity to discuss the impact of the Environmental Protection Agency's (EPA) pollution abatement regulations on the animal feeding industry. In addition to my statement, I am providing responses to the specific questions you submitted to the Department. Included are the responses to the questions asked of Mr. Boyd Buxton. Mr. Buxton, as well as other members of the Department, are present and prepared to participate in the hearings.

USDA has provided research, technical assistance, financial assistance, and educational services relating to the management and disposal of animal wastes to the agricultural industry and enforcement agencies. We have also advised EPA on guidelines pertaining to the control of potential water pollution associated with livestock and poultry production. Our statement focuses entirely on dairy, beef, and swine production facilities. However, there are also some types of poultry operations, in particular turkeys produced on range, and ducks that would be significantly impacted by stringent regulations.

When EPA announced the first point source effluent limitation guidelines in the Federal Register on September 7, 1973, the Department disagreed with the proposed regulations because they applied to all animal feeding facilities, regardless of size, and we felt the economic impact on the small operations could be excessive.

Severe short-run economic impacts on the dairy and swine industries could have resulted if those regulations had been adopted. Many small capacity livestock operators would have discontinued business or been forced to survive on narrower profit margins. Our comments and recommendations to the September 7, 1973 guidelines are attached.

We accepted the final effluent limitation guidelines announced by EPA on February 14, 1974 without comment, since these guidelines applied only to the largest firms and would not create hardships for the many smaller animal production operations or disrupt supplies of livestock products. Subsequently, the Department participated in hearings on the control of pollution from animal feedlots that were held by a House Subcommittee of the Committee on Government Operations, November 29 and 30, 1973. In addition to the statement presented at the Hearings, USDA supplied information amounting to more than 220 pages of the Subcommittee Report. This information covered a wide variety of topics and issues including: activities and authorities of the Department on animal waste management, land application of animal waste, nutrient values of animal waste, conversion of animal waste to useful products, estimates of the economic impact of effluent guidelines for the animal feeding industry, as well as a list of relevant publications relating to these topics.

Now EPA is faced with the issue of proposing additional pollution abatement regulations for animal feeding facilities as a result of the June 10, 1975 Court Order. The Department recognizes that to achieve the objective of the 1972 amendments to the Federal Water Pollution Control Act, some further coverage of animal feeding facilities by Federal guidelines may be appropriate. The Department has offered and will continue to offer its technical assistance and research capability to achieve this objective. However, the Department is opposed to a regulation requiring all animal feeding operations to obtain permits and/or requiring smaller operations to install expensive pollution abatement facilities, if they are not excessive or flagrant dischargers to the Nation's waters. Such a regulation,in these circumstances,would place a costly burden on many small operators.

In 1973, we estimated the aggregate cost of installing pollution abatement facilities to comply with the September 7, 1973 proposed EPA guidelines would amount to about $800 million (measured in 1972 dollars). This investment would be incurred by those operations that were estimated to have runoff control problems and would have to install facilities and adopt practices to control runoff from a 10-year, 24-hour storm event plus process waste water. If these operators were to comply with the 25-year, 24-hour storm event, the aggregate investment would be 10 to 15 percent higher.

The major components of this estimate were investments of $312 million for the dairy industry, $133 million for beef feeding operations, and $254 million for swine operations. However, several significant changes (which will be discussed later) have occurred since that time.

The total magnitude of the expected investments is only part of the picture. These investments would not be distributed equally among firms,but would fall most heavily on the small producers.

In all instances, the cost per head for installing runoff control facilities is substantially more for smaller operations than for the larger operations. For example, in the Northern Region, the current estimated investment per dairy cow is $50 for an 80-cow operation and $190 for a 15-cow herd. Some smaller sized operations would not be in a financial position to meet repayment schedules for investments in runoff control facilities. And there are a large number of these firms. Projections for 1976 indicate 95 percent of dairy farms will have fewer than 100 head of dairy cows. It has been estimated that about 40 percent of these, or 116,000 farms, have runoff problems.

About 80 percent of the estimated investment in the hog industry would affect producers selling fewer than 500 head per year (about 77,000 farms in this category have runoff problems). Many of these producers are small, and have high unit costs. In the cattle feeding industry, about 70 percent of the estimated investment would be incurred by producers selling fewer than 100 head of animals (about 38,000 feedlots in this category have problems).

Furthermore, livestock operations that would have to make an investment in pollution abatement facilities cannot expect to pass a significant portion of the costs on, because of the competitive nature of most livestock and poultry production and marketing systems.

Producers required to invest in runoff control facilities will either have to accept smaller profit margins or discontinue operations. Decisions to continue or discontinue operation depend on a number of factors such as alternative farm enterprises; operator's age, and financial position; credit availability; and whether the farm is owned or rented.

As a result of producers discontinuing operation, we estimated there would be a significant short-run disruption in the supply of dairy and pork products, which would cause a short-term increase in product costs to consumers.

Price increases of 10 to 15 percent were not considered to be unrealistic for dairy and hog products. The supply of beef would not likely be substantially affected because of excess capacity in the cattle feeding industry. However, this is not to say that small beef producers who are forced out of business would not be disadvantaged. Impacts would go beyond consumers and producers since they would affect rural businesses and communities serving agriculture.

If present regulations are extended to all the smaller feeding facilities and compliance is required by 1977, we would have to recalculate our previous estimates because:

1. Construction costs are at least 30 percent higher today than they were when investments were estimated in 1972.
2. Some firms have installed discharge control facilities, and some firms included in previous estimates have ceased production for a variety of reasons. Also, if the interpretation of proposed guidelines differs from previous interpretations, the number of firms affected should be re-estimated.
3. Somewhat more excess capacity exists in the swine industry today than in 1973. This excess capacity would dampen previously expected adverse supply effects in the short-term.
4. Only 2 years remain for compliance. In 1973, we did not expect that adequate technical assistance, equipment, or materials would be available to design and construct runoff control facilities. This situation has become even more critical with a shorter time frame for compliance.

We understand that EPA is considering a number of alternative options to comply with the June 10 Court Order and that EPA may not propose extending present regulations to smaller feeding operations. We suggest that, in setting the guidelines, full consideration be given to all alternatives, including: (1) develop a formula to define confined animal feeding facilities based on factors such as distance to a stream, housing type, climate, topography; (2) increase responsibilities of States in designating livestock operations that require a permit; (3) redefine the point source category; (4) use a concept of "best management practices;" and (5) issue general, area, or block permits.

USDA specialists have met with EPA to informally discuss possible options. USDA has offered to assist with developing various options, but has not yet developed a proposal or position because, to our knowledge, EPA has not yet determined the flexibility the agency has in complying with the legal requirements of the Court Order. We understand EPA will present alternative proposals soon.

USDA is prepared to review and will comment on EPA's proposals. In these reviews, we will comment on both the technical feasibility as well as the economic implications for the industry, farmers, consumers, and rural communities. If appropriate, we will suggest more feasible alternatives. We will be pleased to assist EPA in developing reasonable regulations that will improve and protect water quality, and at the same time avoid disruption in the supply of animal products, and adverse impacts on consumer prices, rural economies, and rural people.

Mr. AHALT. In addition to the printed testimony, we have prepared written responses to questions that you gave to the Department of Agriculture.

Also, we have answers to questions that you gave Mr. Buxton in the Economic Research Service, Mr. Buxton and other members of the Economic Research Service are along with me today.

Senator NELSON. That will also be made a part of the record.

[The material follows:]

Attachment 1. Answers to questions submitted by Senator Nelson re EPA pollution abatement regulations and their effects on small family farms and to questions submitted by Senator Nelson to Boyd Buxton re the effect of EPA guidelines on the dairy industry.

1. History of USDA's role in working with EPA in developing regulations that were promulgated in September and July 1973.

On December 5, 1972, EPA issued proposed and final regulations concerning feedlot policy and the application for National Pollutant Discharge Elimination Systems (NPDES) permits. On January 10, 1973, USDA representatives were invited by EPA to attend a meeting at which 40 representatives of the agricultural community were present to discuss the proposed NPDES application form and guidelines. Subsequently, EPA established an agriculture work group to help revise its policy and application forms. USDA was requested to designate a representative to this work group. The work group met at Kansas City, Missouri, on January 18-19, 1973. On January 29, 1973, the work group met at St. Louis, Missouri, with industry representatives to review the work group revision proposals.

On January 10, 1973, Secretary Butz submitted a "USDA response to the Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES), Proposed Forms, and Guidelines for Acquisition for Information of Owners and Operators of Point Sources, as Published Under Proposed Rulemaking in the Federal Register, Volume 37; 234--, Tuesday, December 5, 1972." The response pointed out certain inconsistencies between point sources and nonpoint sources of pollution and apparent inaccuracies and lack of factual information relevant to agriculture. It was emphasized that a more precise definition to concentrated animal feeding operations was warranted.

2. Describe the public and professional comment the Agriculture Department received concerning these proposed regulations.

The Department of Agriculture did not have the responsibility for officially receiving comments on the September 7, 1973 proposed guidelines. However, we did receive a number of inquiries about the Department's position with respect to the proposed regulations. A substantial portion of these inquiries were very concerned with the scope and stringency of the proposed regulations and the implications for the future viability of the animal feeding industry. These inquiries came from livestock groups, farmers, the general public, and Congress.

Various members of the Department also reviewed a report on EPA's initial Effluent Limitation Guideline proposals. CAST is composed of agricultural scientists in the agricultural experiment stations.

The USDA response also provided a suggested definition for "concentrated animal feeding operation" and suggested that permit applications "be required from operators of feedlots, feed yards, or confined feeding facilities having the equivalent of 300 animal units."

Prior to these suggestions, however, at a National Symposium on Animal Waste Management held at Airlie House, Warrenton, Virginia, On September 28-30, 1971, and sponsored by the Council of State Governments, EPA, the National Association of State Departments of Agriculture, the National Association of State Universities and Land Grant Universities, and USDA a Model State Statute for Animal Waste Control was presented by the Council of State Governments. This proposal provided a suggested definition of a "feedlot" subject to the permit program. In addition, it was proposed that a permit be required only if the facility contained 1,000 or more animal units. It was this information that was used in part by the work group during its deliberations for the EPA guidelines that were subsequently issued.

Further, USDA reviewed EPA proposals and provided constructive suggestions and comments. Examples of some of these are:

a. March 26, 1973; Comments on EPA Proposed Agricultural Form (Form B), for NPDES Permits.

b. July 11, 1973; Comments on Draft "Development Document for Effluent Limitations Guidelines and Standards of Performance--Feedlot Industry."

c. July 12, 1973; Comments on Proposed Pollution Abatement Regulations for the Feedlot Industry--report prepared by Hamilton Standard Corporation. This included economic evaluations of the proposed standards as related to the dairy, swine, and beef industries. Copies of these reports were made available to EPA

d. October 5, 1973; a Multi-Agency Review of Effluent Limitations Guidelines for Existing Sources and Standards of Performance and Treatment Standards for New Sources. This addressed economic impacts of controlling surface water pollution from beef, dairy, swine, lamb feeding, and poultry operations.

USDA also voluntarily conducted studies to develop the basis for the Department's response on nonpoint source guidelines. ASCS conducted a study of animal waste practices in 15 States as requested by the House and Senate Conference Committee for FY 1972 appropriation act for USDA.

USDA has continued to provide technical consultation to EPA upon request. Examples of this are contained in a report on Financial, Technical, and Educational Assistance available from USDA to livestock and poultry producers in controlling pollution (letter dated July 8, 1975, and addressed to EPA). The USDA Animal Waste Subcommittee has continued to be available to meet with and report to EPA upon request to assist in the development of objective approaches to animal waste management to meet the objectives of P.L. 92-500.

3. A What are Agriculture Department proposals for compliance with the June 10, 1975 Court Order?

The Department has not offered any formal proposals to EPA for compliance with the June 10, 1975 Court Order. However, the Animal Waste Subcommittee of the Department's Environmental Quality Committee has met with representatives of EPA and offered its assistance in developing alternative proposals for meeting requirements of the Court Order. Various options have been discussed informally with EPA. These include (1) developing a formula for defining a concentrated animal feedlot based on size of livestock operation, climate, topography, and distance from a stream; (2) lowering the number of animal units of livestock operations requiring a permit; (3) increasing responsibility of States in designation of livestock operations requiring a permit; (4) amending PL 92-500; and (5) using "best management practices" as a method of meeting permit requirements. Legal interpretation by EPA of flexibility provided by the Court Order is needed for formulation of alternative proposals.

The Department is prepared to review and comment on proposals by EPA for compliance with the Court Order. We strongly support pollution abatement and offerthe Department's technical assistance, research, and information capacity to that end (see attached letter of July 8 from Fowden G. Maxwell, USDA Environmental Quality Activities Coordinator, to Mark P. Sano, Director of EPA's Water Planning Division). However, we are opposed to any proposal that would require all livestock operations to obtain permits and/or install expensive abatement facilities if these operations do not discharge significant amounts of pollutants to water.

4a. What are the current economic conditions of the dairy farming, cattle feeding and hog farming industries?

Dairy

The dairy industry has not escaped the turbulent conditions of the past 3 years. There has been a marked increase in uncertainty about the availability and prices of purchased inputs needed for milk production, processing, and marketing, and about the market conditions for dairy products. The farmer, more than any other participation in the dairy industry, absorbs the changes in the prices of inputs and in what the market for dairy products dictate his milk is worth. For example, feed prices rose rapidly during the June to August period in 1973. Dairy farmers were caught in a tight squeeze until milk prices rose during the period from August, 1973 to January, 1974. From May to August, 1974 milk prices fell sharply while feed prices shot upward, and the dairy farmer's incomes declined substantially. The milk price increases of the last 2 months, combined with moderated feed prices, have again somewhat relieved the dairy farmers from a tight cost-price squeeze that existed through the first half of 1975.

Cattle Feeding

In the past 2 years, cattle feedlot operators have had severe financial problems. After nearly 20 years of developing a cattle feeding industry based on relatively inexpensive feed grains, rapid increases in feed prices occurred during 1973 and 1974. Feedlots responded by reducing their feeding activities; in fact, the cattle marketings from feedlots in the Spring of 1975 were the lowest Spring level since 1966. Until feed grain supplies and prices become more stable, fluctuations in fed cattle numbers and cattle prices will continue.

Net margins per hunderdweight of live fed cattle marketed in the Corn Belt were negative during 1974 and until April 1975, ranging from losses of $2.36 to $13.29 per hundredweight, accounting for losses of $25 to $140 per head marketed. More recently marketings have improved, with positive margins ranging from $6.50 to $9.40 per hundredweight. These improved net margins provided returns of $68 to $95 per head for cattle feedlot operators. However, these improved returns might not be long-lasting, as there are indications of increased feed grain prices and weakening fed cattle prices. The latter is attributable, in part, to the increasing practice of slaughtering non-grain-fed.

Hog Farming

Hog producers are beginning to react to record high hog prices and favorable feeding margins by increasing production. The September 1, 1975 quarterly survey of hog producers in 14 States indicates that reduction in sows farrowing will not be as large as earlier planned, and some expansion in farrowings is in prospect for the winter. However, even though producers are now beginning to respond, pork production through early 1976 will continue below depressed levels of a year earlier. A planned increase in the December-February pig crop will not result in increased pork production before the summer of next year.

Hog slaughter has trailed year-earlier levels for every month so far in 1975, with slaughter through mid-year 11 percent below 1974 levels. Restricted supplies in recent months can be traced to the liquidation of breeding stock that began in the summer of 1974, a period marked by a drought-damaged corn crop, record grain prices, and squeezed feeding margins. With hog producers concentrated in the Corn Belt, many farmer-feeders who harvested a corn crop found the cash grain market a profitable alternative to hog feeding and began to cut back or liquidate hog operations.

Hog prices quickly gained momentum during the year, reflecting the sharply reduced supplies. Barrows and gilts at seven markets rose from $39 per hundredweight in January and reached $65 on some markets in late September. Net margins per hundredweight for live hogs marketed in the Corn Belt have been positive for most of 1975. Recent margins have exceeded $14 per hundredweight with commercial hog slaughter during the summer at the lowest level since 1954. With a relatively short supply of pork expected for the next several months, feeding margins should remain favorable. However, hog prices could weaken during the fall if supplies of competing meats are large. A record number of cattle remain outside feedlots and non-grain-fed beef production could be large if continued high and unstable grain prices prevent significant increase in cattle feeding during the fourth quarter.

4b. What are the current economic conditions of family-sized dairy farms, cattle feedlot, and hog farms?

Dairy Farms

Because of rapidly changing prices of major production inputs and milk prices, the economic condition of dairy farmers shifts from month to month. However, the real net income (constant 1972 dollars) was higher for calendar years 1973 and 1974 than for calendar year 1972 (Table 1). Thse conclusions are based on farm account records of 203 Minnesota dairy farmers. From the net farm income reported in Table 1, farmers must retire debt principal as well as meet family living expenses. A return to capital has already been deducted in arriving at the net farm income figure.

Primarily because of increased production costs, the dairy farmers' economic situation was tight in the first half of 1975. Based on records from 134 dairy farm operators in the Northeast United States, total receipts from January through August of 1975 were 4 percent higher than for the same period in 1974. Total operating expenses for the same months were 11 percent higher, leaving the cash difference between receipts and expenses 17 percent lower in 1975 than in 1974 (Table 2). The prospects for the last half of 1975 are brighter, in contrast to the first half of the year. For the month of August, 1975, higher milk prices coupled with substantially lower feed prices resulted in a 70 percent increase in the receipts over operating expenses compared to August, 1974. The situation will be even better for September and October than for August, as milk prices continued to move up rapidly in those months.

Table 1. Net Farm Income Computed From Account Records of 203 Southern Minnesota Dairy Farms - 1972, 1973, and 1974. 1/

Item	Herd Size			
	25-34 cows	35-44 cows	45-54 cows	55 cows and over
Farms (1974)	55	50	39	59
Cows (1974)	31	40	50	78
Capital Managed (1974)	93,443	122,311	137,489	241,438
Net Farm Income (constant dollars)				
1972	6,572	9,307	10,242	16,010
1973	9,271	11,920	13,942	25,156
1974	8,700	13,236	14,466	23,863
Net Farm Income (1972 dollars) 2/				
1972	6,572	9,307	10,242	16,010
1973	8,728	11,221	13,125	23,682
1974	7,381	11,229	12,272	20,243

1/ Source: Nodland, T. et.al. , 1974 Farm Business Summary, Dept. of Agricultural and Applied Economics, Econ. Report 75-7. September 1975 and previous issues.

2/ Deflated by CPI.

Table 2. Economic Indicators of How Well-Off 134 Northeast Dairy Farm Operators Were in 1975 Compared to 1974. 1/

Item	1975 As A Percent of Same Period in 1974	
	Cumulative, January to August	August
	------------ percent ------------	
Total Farm Receipts	104	107
Total Operation Expenses	111	97 2/
Cash Difference	83	170 2/

1/ Source: Frick, George E., Current Summary of 134 Dairy Farms in the Northeast Farm Account Records. Average herd size was 65 cows in 1974 and 67 cows in 1975.

2/ In August of 1974, milk prices were low and feed prices were at a peak. In August 1975, feed prices were lower and milk prices were higher than for the previous August.

Cattle Feedlots

Cattle feeders can be divided into two basic types: farmer feeders and commercial feeders. Farmer feeders are generally considered to be those with feedlot capacities of less than 1,000 head, and commercial feeders those with 1,000 or more head capacity.

In addition to cattle feeding, farmer-feeder operations commonly include field crops enterprises as well as other livestock enterprises, especially beef cows and hogs. Farmer-feeders with lot capacities of less than 300 head commonly operate only during the noncropping season. Larger farmer-feeders, often with more specialized facilities, operate more nearly on a year-round basis.

Although the advantages from using off-season labor, nonsalable roughage, and other relatively low cost inputs tend to strengthen the farmer feeder's position compared with commercial feedlots, there are economies of scale (decreasing costs per unit) associated with increased size. Cattle feedlots with less than 300 head capacities generally have higher unit costs than feedlots of more than 300 head capacity.

During 1969-1974, there was a rapid disappearance of cattle feedlots of less than 1,000 head capacity, a reduction of 44,000 feedlots of this capacity occurred during this period in 18 of the 23 cattle feeding States reported by USDA. Of the total U.S. marketings of fed cattle, the share marketed by feedlots of less than 1,000 head dropped from 50 percent in 1969 to 37 percent in 1974.

Part of the disappearance in farmer-feeders can be attributed to the difference in production costs realized by the relatively small farm-feeders as compared to larger feedlots. Also, rising grain prices in recent years have led some farmer feeders to market grain for cash as a more profitable alternate than feeding the grain to cattle. Another important consideration is the increasing capital required to replace depreciated or obsolete cattle production facilities. Replacement capital for new technology production facilities for a 100-head capacity operation can exceed $440 per head, or $44,000 per feedlot. A 900-head operation, would have capital requirements of only around $330 per head to introduce similar technology. Managers of larger, more specialized operations can oftenfollow and react more efficiently than small farmer-feeders to rapid changes in cattle and feed prices.

It must be recognized that 98 percent of the U.S. cattle feedlots are of less than 1,000 head. Although farmer-feeders are marketing a decreasing percentage of the fed cattle, many farmer-feeders continue to feed cattle to generate some income from the off-season labor which would otherwise be idle, and to use feedstuffs which would be wasted if not fed to cattle.

Hog Farms

Hog production is seldom the only enterprise of a farm, nor is it usually a very large-scale enterprise. In the 1969 Census of Agriculture, the middle third of marketings came from 103,000 farms, each marketing 200 to 499 hogs. The upper third came from about 33,000 farms, each marketing 500 or more hogs. While the number of producers has been steadily declining and the size of the enterprise increasing, small enterprises still account for most of the hogs produced. The 1969 Census of Agriculture reported the 15 major hog-producing States, concentrated in the North Central, Plains, and South east regions of the United States, accounty for nearly 90 percent of U.S. hog output. Of the 511,000 farmers who marketed hogs in 15 States, 386,000 farmers sold fewer than 200 head per year, but they accounted for a third of all sales. Only 12 percent of total sles came from farms selling 1,000 or more hogs. Average annual sales from all farms were only 155 head.

Most smaller farms producing hogs also produce, feed grain; therefore operators have considerable flexibility. In years with rising grain prices and squeezed hog feeding margins, some farms with small hog feeding operations may choose to harvest corn for the cash grain and cut back their hog operations, as many did in 1974. During periods of depressed grain prices, hog feeding may be viewed as profitable alternative to cash grain marketings. In contrast, the larger operations generally do not produce grain, so that feed is usually a cash expenditure. According to a recent survey, slightly less than 10 percent raise all their feed grain and a bit more than half raise none of it.

4c. What would be the cost to dairy farmers, cattle feedlot operators, and hog farmers to comply with pollution control guidelines?

Technology Considered

For all three industries, the capital outlay and increased annual production costs incurred to construct (and acquire) facilities to control discharge, and the ownership-operation costs associated with such facilities, are influenced by the type of control system selected. In turn, the control system selected by farm operators can be influenced by the technical compatability of the control technology with existing resource situations, the economic viability of the farm firm, and the nature of guideline requirements.

The following estimates assume a control system judged to exemplify available control technology. The components of this control system are diversion terraces to divert extraneous runoff flows away from exposed feedlot surface and runoff from lot surfaces to other system components; settling basins to prevent solids carried in the runoff from entering retention ponds; retention ponds for containment of runoff; and pump-irrigation equipment for emptying retention ponds and distributing controlled runoff onto farmland.

Estimates are provided below for the capital outlays and increases in production costs associated with such a system, based on information obtained about local climatic conditions (rainfall) and charges for construction and equipment.

Dairy Farms

A detailed study of the costs required for operators of existing dairy farms to comply with possible surface water runoff guidelines was completed in 1974 by the Economic Research Service of the U.S. Department of Agriculture (see attachment).[1/] Since this study was completed, investment and annual operating costs have increased substantially. The current updated investment and annual costs to collect, store, and dispose of runoff from a 10-year, 24-hour storm event, are shown in Table 3 for farms in the Northern region, Table 4 for farms in the Southeast region, and Table 5 for farms in the Southwest region of the United States. This updated information is contrasted with prior estimates presented in the attachment cited above.

Results still indicate that the greatest financial impact of runoff control would fall on dairy farmers with fewer than 20 cows. The financial impact of runoff control on a farm located in the North with more than 20 cows is also substantial but still much less than on a smaller farm. Investment needed to control runoff has increased (original as compared to 1975 level) from about $69 per cow to $105 per cow for the operator of a 30-cow farm, and from $25 per cow to $34 per cow for the operator of a 150-cow farm. The increased cost per cwt. of milk is now estimated at $0.25 (compared to the previous estimate of $0.16) for the operator of a 30-cow and $0.08 (compared to the previous estimate of $0.06) for the operator of a 150-cow farm.

[1/] Buxton, Boyd, M. and Ziegler, Stephen, J. "Economic Impact of Controlling Surface Water Runoff from U.S. Dairy Farms," Agr. Econ. Report No. 260, June 1974.

Table 3 - Investment and annual costs to collect, store, and dispose of runoff from a 10-year, 24-hour storm event, Northern region dairy farms 1/

Additional facilities and Costs	Herd Sizes (Cows)							
	Estimated October 1975 Costs				Original Estimated Costs			
	15	30	80	150	15	30	80	150
	Dollars				Dollars			
Detention pond	101	200	535	1,003	84	167	446	836
Diversion terrace	175	250	415	551	146	208	346	459
Irrigation equipment	2,428	2,428	2,428	2,760	1,475	1,475	1,475	1,751
Tractor-mounted loader 2/					974	0	0	0
Fencing-detention pond	65	77	82	91	38	45	48	53
Settling basin	98	194	518	751	82	162	432	626
Total Investment	2,867	3,149	3,978	5,156	2,799	2,057	2,747	3,725
Investment per cow	191	105	50	34	187	69	34	25
Annual cost, with 5-year depreciation:								
Depreciation	524	580	746	974	511	382	520	710
Interest	115	126	159	206	112	82	110	149
Repairs & Maintenance	107	107	107	121	89	64	64	79
Insurance	9	9	9	10	6	3	3	3
Electricity	14	20	43	72	6	11	32	59
Labor	38	42	61	78	32	35	51	65
Tractor use	2	2	3	3	1	1	2	2
Total	809	886	1,128	1,464	757	578	782	1,067
Cost per cow	54	30	14	10	50	19	10	7
Cost per cwt. milk 3/	.45	.25	.12	.08	.42	.16	.08	.06
Change in annual cost, with useful life depreciation:								
Total	460	499	631	814	443	350	462	621
Cost per cow	31	17	8	5	30	12	6	4
Cost per cwt. milk 3/	.26	.14	.07	.05	.25	.10	.05	.03

1/ Assumes 3-week storage capacity for normal rainfall during highest rainfall period, plus capacity to store runoff from a 10-year, 24-hours storm event. This is equivalent to 8 inches of runoff from the total drainage area of 450 square feet per cow.

2/ Total investment for the 15-cow farm for these updated figures does not include the purchase of a tractor-mounted loader as assumed in the original study.

3/ Assuming 12,000 pounds of milk per cow per year.

Table [illegible] . Investment and annual costs to collect, store, and dispose of runoff from a 10-year; 24-hour storm event, Southeast region dairy farms. 1/

Additional Facilities and Costs	Herd Sizes (Cows)							
	Estimated October 1975 Costs				Original Estimated Costs			
	15	80	250	500	15	80	250	500
	Dollars				Dollars			
Detention pond	212	1,134	3,545	7,090	177	945	2,954	5,908
Diversion terrace	175	415	712	1,003	146	346	593	836
Irrigation equipment	2,428	2,760	4,263	5,670	1,475	1,751	2,563	3,689
Fencing-detention pond	70	92	168	198	41	54	98	116
Settling basis	98	518	1,627	3,250	82	432	1,356	2,708
Tractor-mounted loader 2/					974	0	0	0
Total investment	2,983	4,919	10,315	17,211	2,895	3,528	7,564	13,257
Investment per cow	199	61	41	34	193	44	30	27
Change in annual cost, with 5-year depreciation:								
Depreciation	547	928	1,973	3,326	529	670	1,503	2,578
Interest	119	197	412	689	116	141	303	530
Repairs and maintenance	107	121	188	249	91	78	113	163
Insurance	9	10	15	20	6	3	3	4
Electricity	32	130	383	669	22	113	351	619
Net change-labor	18	90	271	542	15	75	226	452
Net change-tractor use	2	5	9	18	1	3	6	12
Total	834	1,481	3,251	5,515	780	1,083	2,505	4,358
Cost per cow	56	19	13	11	52	14	10	9
Cost per cwt. milk 3/	.46	.15	.11	.09	.43	.11	.08	.07
Change in annual cost, with useful-life depreciation:								
Total	517	910	2,009	3,368	434	663	1,540	2,678
Cost per cow	34	11	8	7	30	8	6	5
Cost per cwt. milk 3/	.29	.09	.07	.06	.25	.07	.05	.04

1/ Assumes 50 gallons of wash water per cow per day, 3-week storage capacity for wash water and normal rainfall during the highest rainfall period, plus capacity to store runoff from a 10-year, 24-hour storm event. This is equivalent to 16.7 inches of runoff from the total drainage area of 450 square feet per cow.

2/ Total investment for the 15-cow farm for these updated figures does not include the purchase of a tractor-mounted loader as assumed in the original study.

3/ Assumes 12,000 pounds of milk per cow per year.

Table 3 Investment and annual costs to collect, store, and dispose of runoff from a 10-year, 24-hour storm event, Southwest region dairy farms [1]

Additional facilities and costs	Herd Sizes (Cows)							
	Estimated October, 1975 Costs				Original Estimated Costs			
	15	80	150	500	15	80	150	500
	Dollars				Dollars			
Detention pond	143	761	1,427	4,756	119	634	1,189	3,963
Diversion terrace	106	242	330	604	88	202	275	503
Irrigation equipment	2,428	2,428	2,760	4,280	1,475	1,475	1,751	2,862
Fencing-detention pond	67	86	103	174	39	50	60	102
Electric sump pump, pipe	2,602	2,602	2,602	3,891	1,438	1,438	1,438	2,092
Sump	548	548	548	548	389	389	389	389
Total investment	5,894	6,667	7,770	14,253	3,[illegible]	4,188	5,102	9,911
Total investment per cow	393	83	52	29	237	52	34	20
Change in annual cost, with 5-year depreciation:								
Depreciation	1,077	1,231	1,445	2,683	653	780	957	1,884
Interest	236	266	310	570	142	168	204	396
Repairs & maintenance	219	219	234	355	126	126	139	216
Insurance	18	18	19	28	8	8	8	9
Electricity	23	85	153	423	14	72	135	389
Labor	40	84	130	360	33	70	108	300
Tractor use	2	3	3	18	1	2	2	12
Total	1,615	1,906	2,294	4,437	977	1,226	1,553	3,206
Cost per cow	108	24	15	9	65	15	10	6
Cost per cwt. milk	.90	.20	.13	.07	.54	.13	.09	.05
Change in annual cost, with useful life depreciation								
Total	1,011	1,199	1,444	2,826	602	765	974	2,038
Cost per cow	67	15	10	6	40	10	6	4
Cost per cwt. milk [2]	.56	.12	.08	.05	.33	.08	.05	.03

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[1] Assumes 50 gallons of wash water per cow per day, 3-week storage capacity for wash water and normal rainfall during the highest rainfall period, plus capacity to store runoff from a 10-year, 24-hour storm event. This is equivalent to 11.1 inches of runoff from the total drainage area of 450 square feet per cow.

[2] Assumes 12,000 pounds of milk per cow per year.

Similar conclusions were observed in the Southeast and Southwest regions and are shown in Tables 4 and 5.

Cattle Feedlots

The following table presents estimates of the capital outlays required the annual and cost increases that would incurred by cattle feedlot operator to comply with the guidelines:

Capacity class by State groupings (Head capacity)	BPT (1977)		BAT (1983) *	
	Per head capital outlay (weighted average)	Annual cost increase per head (weighted average)	Per head capital outlay (weighted average)	Annual cost increase per head (weighted average)
	Dollars			
Eastern States:				
1,000	145.20	21.17	143.93	20.56
100-199	21.00	3.19	22.17	3.14
200-499	11.60	1.84	12.73	1.79
500-999	8.18	1.28	9.82	1.33
1,000 and more	3.13	0.69	3.88	0.54
Western States:				
1,000	21.65	5.79	21.60	5.15
1,000-7,999	2.92	0.57	2.81	0.38
8,000-15,999	1.61	0.40	1.60	0.22
16,000 and more	1.30	0.36	1.37	0.18

*Prior estimates suggested by practioners in the States are thought to be adequate to meet BAT guidelines.

Differences in capital outlays (expressed in 1972 dollars) for control systems are readily apparent. As cattle feedlot capacity increases, per-head capital outlays decrease. Small capacity feedlots do not realize the economies in adjustment associated with diversion terrace construction, lining and fencing of retention ponds, and so on.

Furthermore, if each feedlot operator were required to own pump-irrigation equipment for retention pond emptying, the limited selection of such equipment with capacities for readily emptying storm runoff would require a $2,000 to $2,500 capital outlay for even the smallest of producers.

Differences in production cost increases for feedlot firms that adopt runoff control systems and continue to operate at historical production levels are primarily attributable to initial levels of capital outlay for the control systems. Small capacity cattle feeding operations incur high per-head cost increases.

The adverse effects on small capacity cattle feedlots may now be more pronounced than the 1972 estimates,because charges for construction and equipment prices increased by nearly one-third between 1972 and 1974.

Hog Farms

The following table presents estimates of the capital outlays required and the annual cost increases that would be incurred by hog farmers to comply with the guidelines:

Farm size class by State groupings (Head sold)	BPT (1977)		BAT (1983)	
	Per head Capital outlay (weighted average)	Annual cost per hundred weight of pork sold (weighted average)	Per head Capital outlay (weighted average)	Annual cost per hundred weight of pork sold (weighted average)
	Dollars			
Corn Belt Lake States:				
1- 99	56.04	3.87	56.62	4.41
100-199	19.64	1.32	20.25	1.36
200-499	10.73	.66	11.07	.74
500-999	6.09	.44	6.83	.43
1,000 and more	4.36	.27	4.55	.26
Plains States:				
1- 99	68.74	4.73	69.01	4.69
100-199	18.95	1.33	19.11	1.30
200-499	9.44	.68	9.66	.66
500-999	4.78	.35	4.98	.34
1,000 and more	2.35	.16	2.15	.15
Southeast States:				
1- 99	75.57	5.86	75.41	5.82
100-199	20.96	1.66	20.82	1.63
200-499	11.04	.89	11.01	.88
500-999	5.96	.50	5.99	.49
1,000 and more	3.12	.23	3.05	.26

*Prior estimates suggested by practioners in the State in thought to be adequate to meet BAT guidelines.

Estimated capital outlays per head are highest for the small swine feeding facilities. Investment requirements decrease significantly as the size of the operation increases. In general, the highest investment are required in the Southeast States, principally because principitation is higher there.

4d. What are the economic impacts extended for the dairy, cattle feeding, and hog industries?

Dairy

Several responses can be expected if dairy farmers are faced with cost increases for controlling runoff. Responses will depend, in part, on the age of the operator, his financial status and credit availability, and whether a son or other relative plans to assume ownership of the operation. Keeping these factors in mind, it is expected that some producers will not attempt to comply; they will either quit the dairy business or continue until they have no choice except to cease operation. Producers with good crop alternatives will drop dairying and specialize in crop production.

Some producers will comply with regulations, and either absorb the cost or expand herd size to leave their net incomes unchanged. Other producers will shift to new housing, milking, and waste handling technologies in order to comply with regulations. Herd expansion usually accompanies this type of adjustment. For example, a confinement housing system with liquid manure storage would eliminate runoff.

The added cost of runoff control cannot be immediately passed on to consumers. In the short run the cost of runoff control would be absorbed by producers. Only after the industry adjusts over a longer time period will the costs be passed on to consumers--due mainly to an expanded market, a lower supply of milk than otherwise would be the case, and correspondingly higher milk prices. Higher costs will directly reduce net farm income in the short run, and stimulate adjustments in the dairy industry in the longer run.

Runoff control regulations that reduce net cash income will have a greater impact on small than on large farms. Some small operators are likely to have greater difficulty obtaining money for needed investment. This situation will hasten their exit from the industry and, in turn, stimulate the shift to fewer and larger dairy farms. This shift will be in addition to the change already projected to 1976, which was used as a base for this study. After industry adjustment, consumer prices will probably increase up to 10 cents or more per 100 pounds of milk.

Consumer price increases will depend on the extent individual producers expand production in order to maintain their net incomes, and the less efficient farmers exit the industry, leaving more efficient ones in operation.

Cattle

The aggregate capital outlays to install control systems will give some indication of the industry impact of imposing the BPT and BAT guidelines on the cattle feeding industry. The estimates presuppose that only those feedlots previously estimated to have uncontrolled discharges would be required to make investments in the previously described control systems.

More than 48,000 feedlots were estimated in 1972 to feedlots have uncontrolled discharges, and a high proportion of these were smaller feedlots: About 80 percent had under 100 head capacity, and all but 610 had under 1,000 head capacity.

The total capital outlay required to meet BPT guidelines by 1977 is $132.8 million (1972 dollars). Feedlots of under 100 head capacity would represent $91.7 million of this total, and those of under 1,000 head capacity would have to pay $125.4 million of this total capital outlay.

It should be noted that nearly 95 percent of the industry capital outlay required to meet the 1977 BPT guideline requirements would fall on the farmer-feeder segment (less than 1,000 head) of the cattle feeding industry. In fact, nearly 70 percent of the total capital outlays for the control of that segment of the cattle feeding industry with existing discharges on the potential for discharge as per the 1977 guidelines would fall on those 38,000 feedlots of less than 100 head capacity estimated to have such problem situations.

Increases in the cost of producing fed beef would be approximately $20,000,000 annually under the BPT and BAT guidelines. It must be recognized that cattle feedlot operators are generally perceived as price takers. Therefore, those cattle feeders required to invest in and incur additional costs for discharge control cannot effectively pass through these costs to consumers in the near term. Therefore, ocnsumer prices for beef products would not be expected to increase in the near term. In the long term consumer prices for beef would not be appreciably increased due to the mandatory adoption of control systems by firms in the industry with discharge problems.

It should be recognized that at the current time there is excess production capacity in the cattle feeding industry. This excess capacity will dampen any potential adverse changes in the supply of fed cattle that might be expected through the closing of small feedlots because of guideline implementation. That is, if fed cattle prices so merit, feeder cattle previously fed by firms exiting the industry would move to operations with excess capacity.

Hogs

Just over 20 percent of the hog farms in the 15 major hog feeding States are estimated to have discharges which need control. Most of these hog farms with problems are family-sized operations. Of the estimated $254 million (1972 dollars) capital outlay required by the industry to construct and install facilities and equipment to be in compliance with BPT guidelines by 1977, over a third would be incurred by farms which market less than 100 head annually.

Annual cost increases to the hog industry attributable to the control of discharges is estimated at slightly more than $36 million. The potential for hog producers to pass these increased costs on to consumers depends the proportion of hog farmers who decide to make investments to comply with guidelines, as compared in the number who decide to cease production.

It is expected that there will be a considerable proportion of smaller producers who will choose to cease hog production. These hog farmers will sell off their market hogs and breeding stock. The near-term effect--that is, for several subsequent farrowings--will be a reduction in feeder pigs, resulting in a drop in volume of market hogs. This reduction in market hogs will lead to near-term price increases of pork products at farm and retail levels.

In the long-term however, capacity for hog production may be expanded. Unlike the cattle feeding industry, where excess capacity apparently exists in the larger operations, larger capacity hog producers are making fairly good use of existing production capacity. In order to expand production, larger hog producing operations would have to expand production facilities to increase hog marketings. This will take time. As existing hog producers expand the size of production facilities using new, more efficient technology, hog marketing will increase and farm and retail pork prices can be expected to return toward levels realized prior to guideline implementation.

4e. How many family operations would be forced out of business by stringent regulations?

The number of family sized operations in the dairy, cattle feeding, and hog farming industries that are forced out of business will depend, in large part, on the nature of guidelines established for small feedlots and the interpretation of these guidelines as they are implemented.

The previously discussed investment and cost estimates - which assumed that guidelines for large operations would be applied to small ones - demonstrate that family operations would suffer from diseconomies of small size. Their per head capital outlays for control systems and associated increases in annual costs will be relatively high compared to larger operations currently under NPDES permits and guideline control.

The diseconomies of size incurred in implementing guidelines may be the overriding reason why some small-capacity operators will choose to cease milk, beef, and hog production rather the make adjustments to comply with guidelines.

5. What technologies are available to abate pollution from animal waste; and what is the status of information reported in "Summary of Data in survey of animal waste pollution abatement projects: Selected counties and 15 States"

A livestock waste management plan addresses both point and nonpoint pollution abatement, through prevention of direct discharge of pollutants to surface or ground waters and through management of livestock waste utilization areas to preclude pollution of such waters. The plan must be an integral part of conservation plans for the entire farming operation. The waste management system must meet the needs of the individual owner or operator, be consistent with good farming practices, and protect land, air and water resources in accordance with health, air, and water quality regulations.

Technology which will provide abatement of pollution from livestock operations is based on best management practices tailored to individual livestock operations; it ranges from "good housekeeping" to complex and expensive structural measures for storing and treating livestock waste. Sound livestock waste management is site-specific. Climate, topography, soils, and production methods influence the type of management practices required for control of pollution from the various livestock operations across the country. Some operations may require diversion of unpolluted runoff away from concentrated livestock areas. Others may require diversion of clean water; collection and storage of polluted water; construction of holding ponds, manure storage facilities, and waste treatment facilities; and purchase of complex land application equipment. There are some operations where the most reasonable solution may be complete relocation of the livestock operation to a more suitable site.

While technology does exist for abatement of pollution from livestock operations, there is inadequate public technical assistance available to plan, design, and construct such facilities within the time frame provided by PL 92-500. This subject was discussed in Attachment I to the Department's letter of October 5, 1973 to EPA, concerning the proposed Effluent Limitation Guidelines for Feedlots of September 7, 1973. (See page 895 of Control of Pollution for Animal Feedlots, Hearings before a Subcommittee of the Committee on Government Operations, House of Representatives, Ninety-third Congress, First Session, November 29 and 30, 1973.)

There has been no followup of the pollution abatement project survey carried out under the 1970 Agriculturel Conservation Program (ACP) and the 1971 and 1972 Rural Environmental Assistance Program (REAP). The 1973 REAP was not carried out until 1974. This was after a civil action which overturned the decision to terminate the program. The 1974 Rural Environmental Conservation Program (RECP) did not offer pollution abatement practices as part of the national program.

The survey information had pointed out that the high cost of installing pollution abatement facilities, in relation to the maximum cost-share payment of $2,500, was a factor in reducing the number of projects completed. This was not the only deterrent however. Many county committees did not wish to commit all their funds to these projects. They felt many other high priority practice requests should to be funded. Most committees try to respond to their farmers' total requests for all urgently needed, high priority practices. When the dollar amount of requests exceeds the county allocation, it is almost impossible for the county committee to approve the maximum payment in very many instances.

6. Estimates of the impact on the small farm operation if regulations were promulgated that included the following criteria; (a) a requirement that each small feedlot owner file for an NPDES permit, (b) the definition of best practicable technology including a once in a 10-year storm event, and (c) the definition of best available technology including a once in 25-year storm event?

The NPDES Permit

The impact will depend upon what the permit requirements are. If it is solely a matter of obtaining a permit, then there would be no significant impact. However, some individuals would likely view obtaining a permit as a nuisance or intrusion of privacy and there would likely be a large administrative burden on EPA. This administrative burden could be reflected in increased demands on USDA if farmers chose to seek technical assistance or other guidance on obtaining permits or meeting permit requirements.

If farmers were required to change waste handling practices or install pollution abatement facilities, then significant impacts could occur. The significance of the impacts would be directly related to adjustments in farming operations and investments required by the permits.

The 10-Year Storm Event

In 1973, USDA estimated that if all animal feeding facilities, regardless of size, with surface water control problems were required to install runoff facilities to control runoff from a 10-year, 24-hour storm event and process waste water, investments required could amount to $800 million. The significant components of this estimate were investments of $312 million for the dairy industry, $133 million for beef feeding operations, and $254 million for swine operations. However, it must be recognized that several significant changes have occurred since that time. First construction costs are more than 30 percent higher today than they were in 1972. Second, some operations, especially those with 1,000 animal units or more and new operating facilities probably have installed facilities. Third, some operations have gone out of business for a variety of reasons.

The total magnitude of the expected investments is only part of the picture. The distribution of these investments among various size firms within the livestock feeding industry is equally or more important because estimated investment requirements fall heavily on the small producers. For example it has been projected that by 1976, about 95 percent of the dairy farms will still have fewer than 100 head of dairy cows and about 80 percent will have 50 or fewer cows. Also, about 80 percent of the estimated investment in the hog industry would affect producers selling fewer than 500 head. Many of these producers are small with high unit costs. In the cattle feeding industry, about 70 percent of the estimated investment would be incurred by producers selling fewer than 100 head.

In all instances, the cost per head for installing runoff control facilities is substantially greater for smaller operations than for the larger operations. In general, smaller operators would not be expected to be in as sound a financial position as the larger operations. Additionally, livestock operations that would have to make investments in pollution abatement facilities cannot expect to pass any significant portion of the costs on. All costs cannot be passed on because of the competitive nature of the livestock production and marketing system and the fact that all producers do not have runoff problems. The economic impacts will fall heaviest on the smaller producers.

Those producers having to invest in runoff control facilities will either have to accept smaller net margins or discontinue operation. Decision to discontinue operation will depend on a number of factors such as alternative operations, age of operator, financial position, availability of credit, and whether the farm is owned or rented.

The 25-Year Storm Event

The aggregate investment requirement of complying with the 25-year, 24-hour storm event control requirement would be 10 to 15 percent higher than for controlling the lesser storm impact. Otherwise, expected impacts would be the same, except, under current regulations, compliance with the more stringent control is not required until 1983. These 6 additional years would permit time for internal adjustments and more gradual compliance.

7. Is cost-sharing for pollution abatement practices being offered? Yes. Authority to develop practices under the 1975 Agricultural Conservation Program (ACP) has been delegated to the county Agricultural Stabilization and Conservation (ASC) committees, in consultation with the county program development group. The county programs are approved by the State committees, in consultation with the State program development group. Practices for controlling animal waste pollution may be included in the 1975 ACP under either annual or long-term agreements. The long-term agreements provide for scheduling practice performance over a period of 3 to 10 years based on a conservation plan of operations for the farm. The practices must be carried out based on prescribed engineering plans developed by the Soil Conservation Service. For the 1975 ACP the level of cost-sharing assistance may be from 50 to 75 percent of the cost. There is a national limitation of $2,500 on the amount of assistance to any one person in a year. Under the long-term agreement plan, a producer may establish certain measures one year and other measures in a future year. (For example: diversions around the barn lot could be cost-shared in 1975 and a waste lagoon in 1976.) Pollution abatement practices must meet the appropriate State Requirements.

Mr. AHALT. Over the years, Mr. Chairman, the Department has provided research, technical assistance, financial assistance, and educational services relating to the management and disposal of animal wastes to farmers.

In addition, we have worked closely with enforcement agencies on this crucial issue. Back in September of 1973, when the EPA first announced their point source effluent limitation guidelines, the Department strongly opposed those regulations, because we felt they were excessively unfair, particularly to the small farmer. Later when the final guidelines were announced by EPA, we did not comment, because they applied only to the larger farms.

Now, however, with the June court order, we realize that to achieve the objectives of the 1972 amendments to the Federal Water Pollution Control Act, some form of coverage of animal feeding by Federal guidelines may be appropriate.

We have offered, and continue to offer our technical assistance, and our research capabilities in the Department, in all agencies in the Department, Mr. Chairman, to help develop new regulations.

We are, however, opposed to regulations that apply to all animal feeding, and here I am speaking of the cattle, dairy, the poultry industry, et cetera, in its broadest sense.

Of course, we are opposed to bringing small operations under this, unless of course there are some flagrant violators, flagrant dischargers of pollutants into the waters the reason being it is particularly costly to the small farmers.

Back in 1973, the Department made estimates relating to the cost of installing the pollution abatement facilities to comply with the September 7, 1973 EPA guidelines. At that time, our estimate was that it would cost about $800 million, and that was in 1972 dollars.

We made estimates on how that broke out by the various industries. The significant thing, Mr. Chairman, associated with those estimates, are that the cost per animal is significantly higher to the small farmer.

In our testimony, we show the difference between the cost per dairy cow for an 80 cow operation, as compared to a 15 cow operation.

For the 80 cow dairy farmer, the cost per head is $50, but when you get down to the very smallest dairy farmer, 15 cow herd, the costs shoot up to $190 per head. The unit costs become excessively high, particularly for a small farmer. That is true across the board, for all types of livestock operations.

In addition to the excessively high unit costs, of course, the farmer has a basic problem. He cannot pass those costs on, as you are well aware. Hence, if you impose these kinds of investment costs on producers, they simply are faced with operating with lower profits or lower profit margins, or simply dropping out of business. That, of course, is one of our major concerns. We do not want to see a disruption to the supply of animal protein, nor hardships caused to our farmers.

It will not only hurt agriculture, but it will hurt the overall food supply picture, and cause a major problem in all of the agriculture-related industries.

Back in 1973, when we made those estimates, we concluded that if you were to apply those regulations across the board, you would cause prices to rise.

At that time, we estimated prices would be some 10 to 15 percent higher. If you were to update those cost estimates at this time—in other words, bring in all of the feeding operations and require them to be in compliance by 1977—you would have to change our earlier estimates. One of the most significant changes is that construction costs since that time are some 30 percent higher.

In addition, you have the problem that some firms, some of the larger operations, have already taken steps to comply. We do not know the extent to which they have done so. There would also have to be some allowance for the excess capacity that we have in some kinds of livestock production, particularly in beef and pork at the present time. Those facilities are not being operated to the extent that they were in 1973, when these estimates were made.

We also have the problem that if you were to make the estimate with only 2 years left to get into compliance, you would compress this adjustment into a very short time period.

In regard to the previous witness' remarks, we are aware that they are looking at the alternatives. We are happy to work with EPA, Mr. Chairman, on evaluating various alternatives.

We suggest several alternatives: (1) That consideration given to developing a formula to define confined animal feeding facilities. These could be based on relevant factors, such as the distance of the feeding operation from the stream. The type of housing, the kind of climate, the kind of topography in the particular area must all be taken into consideration. These are all important, we believe, in considering in developing a formula.

(2) We strongly believe that the States should be given increased responsibility in designating livestock operations that would require some kind of a permit.

(3) We think that consideration should be given to redefining the point source category. This was discussed earlier by the chairman and the previous witness.

(4) We also think there is a basis for using the "best management practices" concept.

(5) And, finally, we strongly feel that is strong basis for some kind of a block grant permit arrangement, rather than going down the line to individual farmers.

We have met with the EPA, and continue to work with them on the various options. We have also offered our assistance in developing others.

The Department believes an important consideration in working out this problem is that legal determinations have to be made regarding the flexibility that was associated with that court order.

Once that is done, we think that we should get on in developing the solution.

We will be happy to review and comment on EPA's proposal, both from the technical feasibility, as well as the implications for the farmers, consumers, and rural communities.

We will be happy to work in any way we can, Mr. Chairman, you can be assured, to reach a solution to this problem.

Thank you. I will be happy to attempt to answer any questions that you may have, Mr. Chairman.

Senator NELSON. Thank you very much.

At the hearings conducted in late 1972 and 1973 by Congressmen Reuss, Secretary Butz suggested in a letter that a definition of concentrated feeding operation is a feedlot, feed yard, or confined feeding facilities having more than 300 animals feeding at one time.

Feedlots, feed yards, or feeding facilities shall mean the feeding of livestock on sites of facilities in which wastes must be removed, and that are not normally used for raising crops, or on which no vegetation intended for livestock feeding is grown, thus permit applications will be required for operators of feedlots, feed yards, and defined feeding facilities, having the equivalent of 300 animal units, and which are suggested as a minimum for the requirement of a permit, and then he gives a whole list here.

Is that still the position of the Department?

Mr. Ahalt. I think that is only one alternative, Mr. Chairman, as to how you would define as a concentrated facility. We defined it that way at that time. Our feeling at this point is that you have to look at a broad set of factors in making that decision.

Senator Nelson. Have you looked at the question of cost sharing, low-cost loans? Congressman Burton has an amendment that was adopted on the House side directing the Small Business Administration, which in the past has not been willing to make loans to farmers, directing that they shall, with a 6¾-percent interest rate, as I recall.

That will be in conference very shortly, and then there is the other possibility of cost sharing, and, as you know, there were experimental cost sharing projects on this question, I think probably the agricultural conservation program, in which they did some cost sharing, and that program is currently null.

What is your view of cost sharing, or direct loans of SBA, or any other ideas that you may have on that issue?

Mr. Ahalt. Well, Mr. Chairman, if the guidelines come down and force an unfair cost burden on producers, then I think it is feasible that some kind of relief be made available. It could be in the form of guaranteed lending, or some kind of cost sharing.

If producers are not able to pass on these costs agricultural output will be curtailed. We are concerned that we have ample supplies of agricultural commodities coming to market. We are also concerned about the welfare of agriculture. I think a feasible way should be worked out to help farmers adjust to this problem.

We would hope, however, that we can work out an arrangement whereby the burden does not fall on the small producer.

Senator Nelson. Is not there a valid point respecting the farmer being in a position which is different from all other small businessmen, that is to say, any small businessman with an operation in a municipality, he does not have to go out and borrow $10,000 or $12,000, whatever it may be, to set up his own sewage treatment facility?

There will be a 75-percent Federal grant, 25-percent local, and then the businessman pays a user fee, therefore, his cost is not a lump sum cost.

He pays his cost of that facility, and the use of that facility over a period of years.

As far as I know, the only economic group in the country that is stuck with coming up with their own capital investment to meet this problem is the farmer, is that correct?

Mr. **Ahalt.** I think that is reasonably correct, Mr. Chairman, with the possible exception of some businessmen in rural areas.

Senator **Nelson.** Yes, some isolated instance, but as a class of small businessmen, the farmer is the only group?

Mr. **Ahalt.** I believe that is correct.

Senator **Stafford.** Mr. Chairman, I have a couple of questions that I think in view of the time constraints, that I will ask be answered for the record, although, if he could come by my office this afternoon, I would appreciate it.

One is, what are the runoff problems of the 116,000 dairy farms that are mentioned on page 4 of your statement?

Do they include pastures or fertilized fields, or barnyards, or what?

If you can give us some details on that, and the other question, we will give to you in writing other questions, and you can answer them.

Mr. **Ahalt.** We would be glad to do that.

Senator **Stafford.** Thank you.

Senator **Nelson.** You wrote some statistics on costs. They are to be printed in full in the record.

I have not had a chance to go through those, but as I said, we will print those in the record.

I will go over for that rollcall, and I think after reviewing those, I will submit some questions to you for the record.

Mr. **Ahalt.** We will be glad to provide a response to you, Mr. Chairman.

Senator **Nelson.** And you have made these studies available?

Mr. **Ahalt.** Yes, we have.

Senator **Nelson.** You have extra copies here?

Mr. **Ahalt.** Yes, we do, sir.

Senator **Nelson.** Thank you very much.

Mr. **Ahalt.** Thank you, sir.

Senator **Nelson.** One more thing, tomorrow there will be a hearing, the hearing will start at 9:30 a.m. There will be a panel from the Minnesota Pollution Control Agency, a panel of farm groups, a panel of university and State agencies, and then the Natural Resources Defense Council, and the Sierra Club, and then the Environmental Protection Agency.

We stand in recess.

[Whereupon, the committees were recessed at 11:10 a.m.]

[The material follows:]

ANSWERS BY THE U.S. DEPARTMENT OF AGRICULTURE TO QUESTIONS SUBMITTED BY SENATOR GAYLORD NELSON

Question. Doesn't USDA now have documents which form the basis for "Best Management Practices" relative to livestock wastes, and how is this information communicated to farmers?

Answer. The Department has basic soil, plant, and climatic information as well as technical guides and practice standards relative to livestock waste management across the country. This information is used to tailor waste management plans to the needs of farmers and ranchers based on specific site conditions and type of livestock operation. This assistance is provided to individual farmers and ranchers through local soil and water conservation districts by the Soil Conservation Service and the Extension Service. Technical guides and practice standards are based on research by the Agricultural Research Service, Cooperative State Research Service and Economic Research Service. Installation of livestock waste management systems is often cost shared through programs administered by the Agricultural Stabilization and Conservation Service.

Question. How effective are the Department's efforts in livestock waste management in terms of numbers of farmers who install recommended waste management practices?

Answer. Installation of livestock waste management practices with technical and financial assistance from the Department is done on a voluntary basis by farmers and ranchers. The Department's Soil Conservation Service reports that since about 1970 it has assisted farmers and ranchers in the installation of over 18,000 animal waste management systems. Of these, some 15,000 systems were cost shared under conservation cost-sharing programs administered by the Agricultural Stabilization and Conservation Service. The current rate of installation based on Fiscal Year 1975 is about 3,500 systems per year.

Many additional systems are planned but have not been installed because of a variety of reasons. Two reasons are often mentioned for not proceeding with installation. The first is the uncertainty of whether or not what they install now will meet the requirements of future regulations. The second is the limitation of $2,500 cost sharing which often covers only a small portion of the cost of livestock waste management facilities and whether or not such assistance will be available on a continuing basis.

As previously stated in testimony, the availability of adequate technical assistance is a major concern if all livestock operations needing pollution abatement systems are to meet the 1977 compliance deadline.

ANSWERS BY THE U.S. DEPARTMENT OF AGRICULTURE TO QUESTIONS SUBMITTED BY SENATOR ROBERT T. STAFFORD

Question. The following questions were submitted by Senator Robert T. Stafford subsequent to the USDA testimony of October 21, 1975.

What are the runoff problems of dairy farms?

Where are the farms with problems located?

Do the problems include barnyard problems or fertilized field problems, or both?

Do the problems include situations associated with pasturing dairy animals?

Answer. The following is an integrated response to this series of interrelated questions.

The estimated 37.7 percent (nearly 116,000 dairy farms) of the projected 305,800 dairy farms in 1976 that have runoff problems is based on a survey of 2,652 dairy farmers in January of 1973. Farmers were asked "as a result of heavy rains or spring thaws, what happens to the runoff water from the surface of the outside lots?" About 30 percent of the dairy farmers surveyed reported that at least one of the following situations existed:

(1) Runoff enters a continued flowing drainage ditch, creek, canal or river which flows through the lot itself (6.3 percent of the farmers surveyed);

(2) Runoff directly enters any surface waters (stream, farm pond, lake, reservoir or any other surface bodies of water) that directly boarder on part of the lot itself (8 percent of the farmers responding); or

(3) Enter any surface waters through a dry ditch, grassway and/or any surface tile inlet. Runoff actually reaches surface water at least once each 10 years. (23.4 percent of the farmers responding).

All such responses were interpreted as an indication of a "runoff" problem.

The balance of the farmers said that runoff from exposed lots drained into an adjacent field or detention pond or lagoon facility. Under these conditions, runoff could never be expected to reach any surface waters during a 10-year period. This proportion of farms estimated to have runoff control problems varied some by regions of the United States.[1] But the proportion of dairy farms with runoff problems in the North Central region (Minnesota, Wisconsin, Michigan, Illinois, Indiana and Ohio), was approximately the same as the U.S. average.

The estimated 116,000 dairy farms in the United States with problem situations includes only farms which had uncontrolled runoff from exposed lots that would enter surface waters. Not included in these 116,000 farms are any farms which might have possible problems of spreading manure on land including pasture.

About one-fourth of the estimated 116,000 dairy farms with runoff control problems are located in Minnesota and Wisconsin.

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[1] A Survey of Animal Waste Pollution Problems on U.S. Dairy Farms, University of Minnesota, Department of Agricultural and Applied Economics staff paper 73-31, December 1973.

In order to determine the economic impact of existing and proposed EPA guidelines, information regarding dairy farm site characteristics was needed. To obtain this information a questionnaire was developed and a sample of dairy farms was surveyed. The National Milk Producers Federation (NMPF) and the Economic Research Service (ERS), U.S. Department of Agriculture jointly developed the questionnaire. NMPF then conducted a random distribution of the questionnaires to affiliated cooperatives.

The survey was designed to obtain approximately 400 responses in each of the 10 EPA regions. A minimum of 400 valid responses, selected randomly, would provide a 95 percent level of confidence that the sample estimate of the proportion of dairy farms with a selected characteristic would be within 5 percent of the actual (true) proportion.

A total of 2,652 questionnaires were returned. The largest number of respondents (421) was in EPA region VII. Between 350 and 399 producers responded in each of regions III, IV, and V which less than 200 producers responded in each of regions I, IX, and X. Insufficient producer response precludes making any statistically reliable statement of confidence about how accurately the survey results represent all dairy farms affiliated with NMPF. Sample errors could also have been introduced through fieldman variation in selecting the sample, conducting the interviews, and interpreting the survey questions. Therefore, the results presented in this report should be interpreted accordingly. However, survey information adds knowledge that otherwise would not be available and provides a more sound basis for environmental policy decisions.

One cross-check indicates that some bias was introduced by the sample survey. About 24 percent of the sample farms had 100 or more cows while only 3.4 percent of all U.S. dairy farms had 100 or more cows in 1969. About 4 percent of the sample had fewer than 20 cows while about 50 percent of all U.S. dairy farms reported fewer than 20 cows in 1969. These farms represent less than 15 percent of the total U.S. milk production in 1969. Consequently, the survey tends to represent the more typical dairy farms with more than 20 cows (which are most likely representative of NMPF producers) and is biased towards the pollution problem on these farms rather than on the smallest types of U.S. dairy farms.

Attachment 2

MAJOR ISSUES

Re

EPA Proposed

Effluent Limitations Guidelines For
Existing Sources And Standards Of
Performance And Pretreatment
Standards For New Sources

Feedlot Category

U.S. Department of Agriculture
Washington, D.C. 20250

October 5, 1973

MAJOR ISSUES

Proposed effluent limitation guidelines for feedlots were published by the Environmental Protection Agency (EPA) in Volume 38, No. 178, of the Federal Register on September 7, 1973. The implementation of these guidelines will be significant to society not only in terms of improving water quality but in their impact on the viability of the livestock and poultry industries. The major issues concerning the proposed effluent guidelines follow:

1. 10-Year, 24-Hour Vs. 25-Year, 24-Hour Rainfall Events

Reference

Sections 412(a)(1), 412.12(a) and 412.13(a)

Recommendation

The Department recommends that one uniform guideline--the containment of runoff from a 10-year, 24-hour rainfall event plus process waste water--be adopted to control runoff from feedlots.

Comments

The proposed guidelines state that by July 1, 1977 feedlot operators must construct facilities to contain process waste water and surface water runoff from a 10-year, 24-hour rainfall event. By July 1, 1983, operators must be able to contain process waste water and runoff from a 25-year, 24-hour storm event. We object to the proposal of one guideline for 1977 and another for 1983.

On an initial construction basis, costs would average 10 to 15 percent higher, and possibly as much as 45 percent, to provide a system for containing required process waste water and runoff from a 25-year, 24-hour rainfall event than for containing required process waste water and runoff from a 10-year, 24-hour rainfall event. Once a containment facility has been constructed, the cost of enlarging that capacity would be substantially more.

Logic alone would indicate that in the event of a 25-year, 24-hour rainfall event the incremental discharge from a 10-year, 24-hour facility would be diluted by the extreme flows from other sources. Slight, if any, adverse effect on receiving surface waters would occur. Thus, based on chemical, hydrological, and economic considerations, we see no justification to go beyond the 10-year, 24-hour rainfall event as a single effluent guideline.

Some feedlot operators have already constructed facilities to contain processed waste water and runoff from a 10-year, 24-hour rainfall event. If the 25-year, 24-hour guideline is adopted, the Department recommends that all operators who have constructed facilities based on the 10-year, 24-hour criteria be exempt for a period of time from the new regulation. The length of time the producer would be exempt should be based on a realistic depreciation of the investment.

2. Phasing of Compliance with Effluent Limitation Guidelines

Reference

Sections 412(a)(1), 412.12 and 412.13

Recommendation

The Department recommends that compliance with the effluent limitation guidelines be phased over a period of 9 years. This would mean that total compliance by all feedlot operators would be required by 1983 as opposed to 1977. The largest firms and the excessive or flagrant polluters, i.e., those discharging directly into streams and rivers, should be required to comply first. The compliance requirement and timing of the compliance should be stated explicitly.

Comments

The Federal Water Pollution Control Act requires the use of "the best practicable control technology currently available as defined by the Administrator" by July 1, 1977, and "best available technology economically achievable" by July 1, 1983. EPA determined the "best practicable--available" was no discharge of process waste water pollutants to navigable waters, except for runoff which cannot be contained by facilities designed and constructed to contain process waste water and runoff from a 10-year, 24-hour rainfall event. EPA determined the "best available--achievable" would be identical except a 25-year, 24-hour rainfall event was substituted for the 10-year, 24-hour event. These effluent guidelines apply to all feedlots. 1/

The Department believes requiring all feedlots to comply with the proposed effluent guidelines is not "practicable" or "achievable" because of:

1/ Some confusion exists concerning the word feedlot. The EPA definition is not identical to the definition commonly understood in the Agricultural community. Also, there is a question whether the Federal Water Pollution Control Act intended EPA to adopt an all inclusive definition of "feedlot."

___ inadequate technical assistance;

___ a serious impact on consumer prices, supplies availability, individuals, and local communities;

___ shortage of equipment, supplies and labor to construct required facilities;

___ a large administrative burden in determining and enforcing compliance; and

___ uncertainty concerning nonpoint source guidelines.

a. Technical assistance

Currently there is inadequate public technical assistance available to design the runoff control and containment facilities on all farms with pollution control problems in a 4-year period. More than 280,000 farming operations are estimated to have surface water pollution problems given the present interpretation of the proposed guidelines.

Based upon the Soil Conservation Service experience in planning, designing and installing waste management systems, approximately 28,000 man-years of technical assistance would be required to meet the needs of operations with water pollution problems. Some 7,000 man-years would be required on a yearly basis between now and 1977 to provide the technical assistance necessary to design and install waste management systems to meet proposed effluent guidelines.

In FY 1973, SCS provided 390 man-years of technical assistance for designing and installing 3,800 waste management systems. Cooperative Extension Service agricultural engineers in the land grant universities are actively engaged in educational programs on the design of feedlot runoff control systems. It is estimated that they are devoting 25 man-years to this activity. In addition, it is estimated that county Extension agents are currently devoting 300 man-years to feedlot runoff work. Extension will continue to assist feedlot operators on a state-by-state basis. No great increase in the man-power commitment to this work can be expected within the resources currently available.

Potentially, private firms could provide technical assistance required. However, except in situations of surplus supply, which is not apparent at this time, agriculture would have to compete with other demands for these services such as for highway construction, home building and industrial construction. In general, agriculture is not in the financial position to be competitive. If agriculture were forced to compete with industrial demands, the economic impact would be inflated considerably.

b. Equipment, Supplies, and Labor

It does not appear that an adequate supply of bulldozers, pumps, concrete, and labor will be available to construct control facilities on some 280,000 farms in 4 years. To obtain needed equipment, supplies and labor, agriculture would have to bid against industrial and other demands.

c. Economic Impact of Proposed Regulations 2/

The total required investment for those fed-beef, dairy, hog, lamb feeding and poultry operations with surface water pollution problems would be about $800 million. 3/ This estimate is based on controlling surface water runoff from a 10-year, 24-hour rainfall event plus process waste water. If these operations were to control process waste water and runoff from a 25-year, 24-hour rainfall event, the estimated investment could be as much as $900 million.

The total magnitude of the estimated investment for the control of water pollution from feedlots is only one part of the economic analysis. The distribution of the required investment among the various size firms within the livestock and poultry industries is far more important. Many of the feedlots affected are small to medium in size on which the unit costs and other economic factors would be much greater than on the large livestock operations.

2/ The economic impact information was drawn from analyses by the Economic Research Service on the fed-beef, dairy, hog, poultry and lamb feeding industries and an analysis of credit availability.Th This material is contained in Attachments II-VII.

3/ In estimating the number of operations with surface water pollution problems, it was assumed that such problems did not exist if polluted waters did not leave the farm or travel across a field before entering surface waters. If the proposed effluent guides were to be interpreted as requiring the containment of runoff from all buildings and lots regardless of whether runoff reached navigable waters, nearly all farms would be affected and estimated investments would increase three-fold.

The economic impact of the proposed effluent guidelines would be substantial in the short-run. A number of producers could be forced out of business for a variety of reasons associated with pollution controls. The sudden financial impact on marginal producers would likely force a number of producers out of business more quickly than otherwise would have occurred. For example, some 69 percent of the total estimated investment of $146 million in the fed-beef industry would be required of operators selling less than 100 head. In the hog industry four-fifths of the investment of $280 million would fall on producers selling fewer than 500 head. Also, about 60 percent of the hog producers with pollution problems are small volume producers with high unit costs.

Additionally, some viable operators will have no alternative except to stop livestock production. Given the location of their operations, the cost of complying with proposed regulations would be prohibitive. For example, an estimated 4 percent of all dairy producers would have to move barns and lots.

There are a number of other reasons that pollution controls could force producers out of the livestock industry. Even if producers can withstand the financial impacts, the additional imposition of controls and anticipation of further regulations could make them decide to concentrate on other farm enterprises. This would be especially true when grain prices are high. Also, a considerable portion of the livestock is produced in the Corn Belt where tenancy is common. Landlords might not be willing to invest in pollution abatement facilities. This could be especially relevant in the case of hogs. Regardless of the reason, there is a good indication that a significant number of producers would leave the livestock industry. To the extent these producers cannot find alternative sources of farm or nonfarm income, they will be severely disadvantaged.

In the short-term substantial changes in supply availability and increased prices would be expected. This would be especially apparent in the dairy and hog industries where price increases of 10 to 15 percent are not unrealistic. In the case of fed-beef, poultry and lambs the short-run impact on supplies and prices would be nominal.

Short-term economic impacts would be felt by other than producers and consumers. Those rural businesses and individuals who supply inputs and otherwise service agriculture would be adversely affected. Included would be equipment dealers, veterinarians, feed suppliers and local businesses. Thus, an adverse community impact could also be a reality.

Over the longer-term price and supply effects would disappear and an efficient and viable agriculture would result. Operators remaining in business would increase the size of their business and adopt new technology. Regional shifts in production would also occur. It is likely an increasing portion of the fed-beef would be produced in the western States and dairy operations would become concentrated in areas where production costs are lower. These shifts would affect local communities, but given an adequate adjustment period, economic and social impacts could be offset by other economic activity.

d. Enforcement

Even if materials and technical assistance were available, there is a tremendous administrative burden in determining and enforcing compliance. Such resources do not appear to be available.

e. Uncertainty Concerning Nonpoint Guidelines

Currently, only point source guidelines are being considered. The control technology proposed is containment. However, the operator cannot store the effluent indefinitely. Eventually, he must empty the storage to provide room for the next storm. The only practical method is disposal on land. At certain times of the year land will be unsuitable to receive the discharge.

By 1975, States are to propose nonpoint guidelines. One of the issues that will be considered under the nonpoint guidelines is land disposal of effluents from holding ponds. Consequently, containing storage is only part of the waste management problem. Waste management must be considered in a total systems context. Until the nonpoint guidelines are developed there is a fundamental danger that waste management systems may be developed that will not comply with forthcoming "nonpoint guidelines." This means operators may make costly changes now and at a future date be required to add onto the present system or completely revise it. If this were to occur, the total economic impact could be severe.

3. Capacity and Management of Runoff Containment Facilities

Reference

Section 412.12(a)

Recommendation

The Department recommends that practices and facilities for runoff control be designed on an individual feedlot basis so that variations in climatic conditions, availability of land, production and management systems and local regulations can be recognized.

Comments

The proposed guidelines state that the runoff holding capacity must be sufficient to contain process waste water and runoff from a 10-year, 24-hour rainfall event. The size of the holding pond required depends on (1) the amount of process waste water flowing into the pond, (2) volume of runoff, (3) amount of direct precipitation, (4) rate of evaporation, and (5) number of times a pond is emptied throughout the year. Given these variables, a waste management system can be designed that will meet the proposed effluent guidelines. The relative importance of these factors vary with climatic conditions, availability of land, production and management systems, and local regulations.

We endorse the statement on page 150 of EPA "Development Document . . . Standards for Feedlots" which states:

> "Each runoff control problem must be addressed separately and may require the attention of several organizations, generally including the state agency responsible for pollution control, the Environmental Protection Agency, Soil Conservation Service, Agricultural Extension Service of the applicable state university, or possibly consultants hired to design the system."

Additionally, we would include organizations responsible for health and sanitary standards.

4. Financial and Technical Assistance

Reference

Section 412(b)(2), page 24468 (economic impact analysis)

Recommendation

The Department recommends that expanding technical and financial assistance for feedlot operations impacted by the proposed effluent guidelines be considered.

Comments

The economic impact of meeting proposed effluent guidelines could be substantial for some livestock and poultry producers, particularly those with small to medium operations. Some producers will stop producing livestock. Those producers who remain in business but must construct containment facilities will have an immediate reduction in income. Farmers are "price takers" not "price makers;" consequently, the operator cannot recover the cost of the facilities.

In the past when changes in production practices have been forced on individuals, and there was general public benefit such as would be received from improved water quality, the public made allowances. Cost-sharing and the granting of tax advantages are two approaches.

Sharing with producers the cost of installing waste management control measures could be carried out under various USDA programs. The Rural Environmental Assistance Program and funds transferred from EPA as provided for in the Agriculture, Environmental and Consumer Protection Appropriation Bill of 1974, are possible means to provide cost-sharing.

Other Agencies and Departments could also have responsibility for managing compensation type programs. Finally, some provision through technical and/or financial assistance could be made to assist impacted producers in changing enterprises.

Attachment 3

Comments on
"COSTS, CAPABILITIES AND ECONOMIC IMPACT ON WATER POLLUTION CONTROLS ON FEEDLOT INDUSTRY
(A Draft Report prepared by the
Development Planning and Research Associates, Inc., for the National
Commission on Water Quality)

I. Summary and Conclusions

The aggregate investment estimates presented in the report appear to be in the realm of reasonability. Investment requirements are estimated for several scenarios. For the "moderate" BPT scenario, the investment estimate is $557 million. The important components of this estimate are $135 million for beef cattle, $204 million for the swine and $183 million for the dairy subcategories. With the exception of dairy, these investment requirements are of the same order of magnitude as USDA/ERS estimates.

The overall industry coverage is adequate and the scope of the report is appropriate. There are some questions as to whether investment requirements were aggregated in the most desirable manner and there appears to be some data problems. The data problems involve the census data series used for dairy cattle and the aggregation of data on cattle and calves fed grain and concentrates.

The report does not present the economic information in a good format that will allow for policymakers to readily grasp the content. The differences in the impact of investment requirements that vary by size of firm, geographical location, and housing types are not evident. The report concludes that the greatest price and quantity impacts will be for turkey and dairy products, but the impact will be modest (generally less than 1 percent). Pork products should also be included as having a potentially heavy price and quantity impact in the short term. It is questionable whether impacts will be modest for these products if compliance with regulations is required for all feeding facilities by 1977.

Because of the economic structure of the livestock feeding industry, costs of effluent control facilities generally cannot be passed directly to consumers. This forces narrower profit margins on the producer.

The economic impact on the industry for meeting effluent guidelines decreases with increasing time for compliance.

II. Detailed Comments

Scope of Industry Coverage and Data Base. The contractor was requested to provide a description of the animal feeding industry. All feeding facilities regardless of size were to be included. Considering the recent court decision and the subsequent court order requiring EPA to develop limitations and permitting strategies for firms with less than 1,000 animal units, this was an appropriate request. Currently, it is not clear which of the firms of less than 1,000 animal units will be required to obtain permits and comply with guidelines.

The contractor used Census of Agriculture data (primarily 1964 and 1969 data) to provide the size distribution of feeding facilities for each subcategory of the industry. The contractor then used these data to indicate the industry structure by size of firm for three periods--1973, 1977, and 1983. The contractor's failure to explicitly describe the use of these data and estimating procedures raises a number of issues. Among these are:

- Census data include some farms feeding grain and concentrates to cattle that may have production facilities that would not fall under EPA's definition of confined feeding facilities. An example is land extensive backgrounding or "warm up" operations that prepare cattle for intensive feeding of concentrates in a feedlot.

- Census data report farms feeding cattle grain and concentrates stratified by number marketed per farm. These data cannot be interpreted as representing distribution of feedlots by capacity unless turnover rates are specified or it is assumed that the turnover rate in each capacity stratum is 1.0.

- The number of farms reporting cattle fed grain and concentrates cannot be added to the number of farms reporting calves fed grain and concentrates. In table AI-1, the contractor indicates 237,636 farms reporting sales of cattle and calves fed grain and concentrates. For this time period, the Census reports 226,663 such farms. It appears some double counting must have occurred.

- The total number of farms classified by the Census as "dairy farms" is substantially less than the num-er of farms reporting dairy cows on farms.

An additional issue concerns the contractor's misinterpretations of firms required to construct runoff control facilities. For each of the technology levels (BPT, BAT, and some multiple of BPT requirements that reflect the possibility of more stringent State requirements), two scenarious were described--moderate (feedlot exemption based on location to waterways) and strict. The latter implies that all feedlots would be expected to adopt control practices to be in compliance with the effluent limitations guidelines announced by EPA. It appears that under the NPDES permit program, as currently being applied by EPA, those feedlots of 1,000 or more animal unit one-time capacity must apply and obtain a permit from EPA or a designated State agency. This does not, however, suggest that all firms applying for a permit will be required to take remedial actions (adopting a control system) to be in compliance with the effluent limitations guidelines. Current understanding is that only firms of 1,000 or more animal unit one-time capacity that are or have the potential of discharging to surface water will be required to adopt a control system. Firms without problems apparently would either be issued an unconditional permit for operation or their applications would be maintained by EPA as a matter of record.

Economic Methodology. Several issues related to the theoretical and analytical constructs employed by the contractor need to be treated more explicitly in the narrative of the report.

A. Terminology. Perhaps most important in terms of the readability and accuracy of the report is an improvement in the terminology used in the report. Many terms take on particular meaning in economic theory. The contractor should distinguish carefully between additional capital outlays (or additional investment) and changes in annual costs. Annual costs and variable costs and these components of annual costs should be made readily distinguishable in the text.

B. Economic Theory. On at least two different occasions in the contractor's report (page VI-7, 4th paragraph; and page VI-21, 5th paragraph), a peculiar interpretation of output adjustment is presented. Theory of the firm would suggest that firms do not make output adjustments (expand production) in response to changes in fixed costs. Rather, they adjust to marginal cost changes (which are by definition independent of fixed costs) and produce at the point marginal costs are equal to marginal revenue, subject to the limiting condition that marginal revenue is greater than or equal to marginal revenue, subject to the limiting condition that marginal revenue is greater than or equal to average variable cost at the particular level of output.

C. The Basic Unit of Analysis. Apparently, at least from inspection of the beef cattle subcategory of the feedlot industry, the contractor attempted to use the mean-size firm within each capacity stratum as the basic unit of analysis. However, this may not be the case. The "model size plants" used for the beef subcategory were 40, 200, 600, 2,750, and 20,000 head capacities. These were employed to reflect the 100, 100-499, 500-999, 1,000-9,999, and 10,000 head Census size strata, respectively. However, the time period for which these model size plants are to be reflective of these size strata is not distinguishable. Consider the following calculated mean values derived by dividing marketing by farm numbers.

Size Strata	Census 1969*	Contractor 1973	Contractor 1977	Contractor 1983
100	25	25	30	31
100-499	206	197	199	201
500-999	297	581	592	622
1,000-9,999	N.A.**	2,941	4,048	4,250
10,000	N.A.**	33,235	34,884	35,000

* Based on cattle only.
** Not readily available.

An explicit explanation of the meaningfulness of these model size plants would be worthwhile. From casual observation, only those for the 100-499 and 500-999 strata have meaning. The apparent 40-head choice seems too large for the 100 stratum. A turnover rate must be applied to marketings in the 1,000-9,000 and 10,000 strata to reduce them to one time capacities of 2,750 and 20,000. The implied turnover rates for 1977 are 1.47 and 1.74, respectively.

Capacity (or size, if appropriate) would be an adequate description of a model plant if technology for production were the same for each capacity stratum. However, production technology tends to vary by firm capacity and geographic location within the beef and other subcategories. The capital outlays per firm would have been more realistically described if various types of production facilities (i.e., dry lot, confined, etc.) had been taken into account. Those production technologies (housing types) described in the final announcement of the effluent limitations guidelines in the Federal Register, February 14, 1974, or an alternate set, such as employed by the Economic Research Service, would have been appropriate. The importance of this stratification can be seen in table 11, page 25, of AER Report No. 292, USDA/ERS where per head capital outlays vary by type of housing facility. For example, from the ERS report it can be seen that the investment per head capacity in Indiana for an open lot of 200-499 head capacity is $23.45 compared to an $18.28 investment for a dry lot paved system of 100-199 head capacity. Thus, a question exists as to whether the most appropriate unit of analysis was used.

D. Uniform Input Prices. Input charges for excavation services, construction, and materials were held constant across the geographic segments employed. This conceals a considerable amount of variability. Also, not explicitly delineated was whether or not such facilities were all assumed to be constructed by outside contractors or in some cases partially or wholly constructed by the farm labor force.

In the analysis of firm financial performance, feed was assumed to be purchased for all firms. This provides an overstatement of feed costs for firms that produce their own feedstuffs, especially in the corn producing regions where shelled corn can be stored at high moisture content for feeding purposes.

E. Reasonableness of Sequential Estimation. In the contractor's cost of effluent control section, capital outlays reported by the contractor for installing BAT facilities assume that facilities were initially installed to meet the 1977 BPT standard and then upgraded to meet the 1983 BAT standards. This appears to be an unrealistic assumption and one that results in an overstatement of the additional investment required to achieve BAT. The contractor appears to have misconstrued the intent of the Act in assuming that the BPT standard had to be met before the BAT standard could be met. A sequential adjustment procedure was not mandated in the Act. Thus, producers expecting to remain in production through 1983 would hardly be expected to install BPT facilities and then to upgrade facilities at substantial additional expense to meet BAT standards by 1983 when it would be less costly to build facilities to meet the BAT standard initially.

Investments Required and Economic Impacts. The aggregate economic impacts estimated by the contractor appear to be in the realm of responsibility, though somewhat low. The estimates for strict interpretation should not be considered because these are not, in our interpretation, consistent with present or probable implementation of effluent guidelines for the feedlot industry. For comparison purposes, ERS and the contractor's estimates are presented below for the beef, swine, and dairy subcategories.

The ERS estimates may be considered similar to the contractor's estimates under the moderate scenario. The contractor's BPT technology level is approximately the same as the technology assumptions used by ERS in estimating investments required to control a ten-year, 24-hour storm event. In a like manner, the management size and State technologies can be considered about equivalent.

Contractor's Estimates

Subcategory	Moderate BPT	Moderate Management Size
	($Million)	
Beef	135	169
Swine	204	244
Dairy	183	198
Total of three subcategories	542	611

ERS Estimates

Subcategory	10-year, 24-hour	State
	($Million)	
Beef	133	136
Swine	254	290
Dairy	312	375
Total of three subcategories	699	801

For the total of the three subcategories, the contractor's estimates are less than the ERS estimates. By subcategory, it can be seen that the beef subcategory capital outlays are only slightly different. The contractor's estimates would be expected to be slightly higher for this subcategory because of recent increases in control system component prices and because the contractor considered a slightly larger population of beef feedlots. The contractor's dairy subcategory estimates are less than ERS estimates. A major reason is a different population was used for aggregation. As pointed out in a prior comment, the contractor used only data on farms considered by Census as "dairy farms," rather than the larger Census estimate of farms with dairy cows. Another possibility may be the difference in time. Some operations have installed facilities since the ERS estimates were made. However, it is not believed that this would account for any significant portion of the difference. Also, some differences in technology employed may contribute to the lower estimate. The difference in investment requirements for the swine industry is not readily apparent. A variation in the technologies assumed to be employed appear to be the most likely reason.

The presentation format employed by the contractor does not enable concerned policymakers to isolate the incidence of economic impact by size strata within each subcategory of the feedlot industry. Failure to follow such a format also detracts from the use of the analyses in formulating alternate patterns of guidelines implementation and any attempt at balancing the benefits and costs of implementing the guidelines.

It would be worthwhile to point out that because of the present structure of the feedlot industry and the distributional nature of impacts by region, size of firm, and housing type, cost increases generally cannot be passed on. Consequently, those operations that must make investments will be forced to accept narrower profit margins.

Economic Benefits. No attempt was made to assess the economic benefits of implementing the guidelines. Obviously, to do so is nearly an insurmountable task. A prelude to such an effort could be made using the contractor's analysis of the section on control achieved by moving from BPT to BAT. The changes in costs and gallons of runoff controlled by BPT and BAT could be compared. To illustrate the gallons of runoff controlled under each technology level by size (capacity) strata within each subcategory of the feedlots industry, a format similar to that used in AER Report No. 292, USDA/ERS could be followed. This ERS analysis illustrates that a large portion of the runoff to be controlled in the beef subcategory of the feedlot industry originates from firms of lesser capacities than those currently subject to NDPES permits.

Price and Quantity Impacts. The contractor concludes that price and quantity impacts fall heaviest on the dairy and turkey categories, but the changes are modest (generally less than 1 percent). We concur that such impacts would be heaviest on dairy and turkeys. In the near term, it is not evident that impacts should be viewed as modest. Also, impacts could be significant for hogs. It is our view that if guidelines were developed and implemented for smaller operators over a short period of time, the near term effects would be a disruption of supplies and increases in market prices for swine, turkeys, and dairy products of more than modest proportions. However, over the longer term, the disruption in supply would disappear. The longer the time period provided for compliance, the lower the potential price and supply impacts.

Attachment 4

July 8, 1975

Mr. Mark A. Pisano, Director
Water Planning Division
U. S. Environmental Protection Agency
401 M Street, S. W.
Washington, D. C. 20460

Dear Mr. Pisano:

This is in reply to your letter of May 27, 1975, requesting information on the Department's programs which may be helpful to livestock and poultry producers in controlling pollution.

The Department's waste management activities have been adjusted in recent years to include increased attention toward abating pollution from livestock and poultry production systems, including feedlots. The programs and activities of several of the Department's agencies represent research, extension education, technical assistance and financial aid approaches to improving animal waste management and pollution control.

You requested specific information on financial assistance programs. This is available from three of the Department's agencies: Agricultural Stabilization and Conservation Service (ASCS), Farmers Home Administration (FmHA), and Soil Conservation Service (SCS). Assistance available from these agencies is described in the enclosed summaries.

Technical and educational assistance programs available from SCS and the Extension Service (ES) are also discussed in enclosed summary statements. These activities operate through a system of field offices available to producers at the local level across the land. They are supported by research carried out by the Agricultural Research Service, the Economic Research Service, and cooperating State Agricultural Experiment Stations. Research activities are also described in the enclosures.

This Department will continue to provide assistance to livestock and poultry producers for controlling pollution—drawing upon its several program authorities, using its widespread professional and technical staff, and communicating directly with farmers about their needs where they live and work.

We trust that this is the type of information you desired.

Sincerely,

V. A. 7/2

FOWDEN G. MAXWELL
Coordinator
Environmental Quality Activities

Enclosure

SEC:DJWard:vhw

cc: D. J. Ward, SEC
William Sallee, ASCS
J. Hudson, FmHA
R. Duesterhaus, SCS
V. Davis, ERS
C. Harris, CSRS

7/1

6/30

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

27 MAY 1975

Mr. David J. Ward
Coordinator of Environmental Quality Action
Office of the Secretary
Department of Agriculture
Washington, D.C. 20250

Dear Mr. Ward:

The Environmental Protection Agency and the Small Business Administration have implemented a joint program of financial aid designed to help small businesses meet the costs of pollution control.

The actual assistance is supplied by SBA once EPA has certified that the proposed alterations, additions or changes in methods of operation are necessary and adequate to meet pollution requirements.

We have received numerous inquiries from individuals engaged in agricultural enterprises and therefore it would be invaluable for us to be aware of similar programs administered by the U.S. Department of Agriculture which aid farmers in the installation of pollution control equipment.

Any available information in this matter would be greatly appreciated. Thank you for your efforts.

Sincerely yours,

Mark A. Pisano
Director
Water Planning Division

ASCS
UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE

June 6, 1975

Dr. David J. Ward
Acting Coordinator,
Environmental Quality Activities
Office of the Secretary

Dr. Ward:

Attached is a draft of proposed response from USDA to EPA letter on animal waste control assistance.

Charlie Fogg, Harry Geyer & Judd Hudson furnished some inputs. I hope this can help get out the information to EPA.

W. J. Sallee

ATTACHMENT A

Pollution abatement practice accomplishments under the REAP
1970-1973

Item	1970	1971	1972	1973
Animal waste lagoons				
Number of structures	799	1,053	5,174	4,486
Animal units	172,402	256,170	1,071,706	722,917
Tons of waste produced	2,242,717	3,325,920	13,932,178	9,397,856
Cost shares	$611,997	$1,082,231	$7,463,569	$7,399,945
Portion of U. S. total C/S	.37	.80	4.09	4.05
No. of States in which performed	35	43	50	50
Animal waste storage facilities			1/	1/
Number of structures	483	1,848		
Animal units	175,361	456,150		
Tons of waste produced	2,279,693	5,903,885		
Cost shares	$425,416	$2,691,042		
Portion of U. S. total C/S	.25	2.00		
No. of States in which performed	29	44		
Diversions for animal waste management			1/	1/
Number of structures	295	986		
Animal units	23,185	154,261		
Tons of waste produced	301,405	1,959,087		
Cost shares	$156,370	$464,784		
Portion of U. S. total C/S	.09	.35		
No. of States in which performed	29	39		
Other animal waste management practices				
Number of structures	85	9	41	9
Animal units	5,875	796	5,079	1,535
Tons of waste produced	76,375	10,348	66,027	19,955
Cost shares	$36,128	$4,842	$41,661	$14,586
Portion of U. S. total C/S	.02	*	.02	.01
No. of States in which performed	7	3	5	3
Sediment-related measures				
Acres served	11,842	376,150	2,273,834	1,871,194
Cost shares	$119,913	$3,903,999	$14,435,098	$17,038,233
Portion of total U. S. C/S	.08	2.90	7.91	9.33
No. of States in which performed	18	38	49	50
Other pollution practices				
Number of structures	20	524	2,143	1,959
Acres served	13,763	122,831	230,478	145,816
Cost shares	$67,794	$621,858	$1,274,734	$1,206,755
Portion of U. S. total C/S	.04	.46	.69	.66
Number of States in which performed	6	26	31	28
Total pollution abatement practices				
Cost shares	$1,417,618	$8,768,756	$23,215,062	$25,659,519
Portion of U. S. total C/S, REAP	.85	6.51	12.71	14.05

* 0.005% or less.

1/ These measures were carried out under other practices in 1972 and 1973.

NOTE: Data for 1974 is incomplete.

ATTACHMENT A

Accomplishments under REAP toward solving conservation and environmental problems
(Selected data, 1970-1973 1/)

General program data

	1970 ACP	1971 REAP	1972 REAP	1973 REAP
Size of program authorized	$185,000,000	$150,000,000	$195,500,000	$225,500,000
Number of participating farms	828,962	611,353	678,365	391,395
Average gross assistance per farm	$218	$239	$289	$500
Transferred to technical service agencies	$7,799,799	$6,714,901	$8,842,811	$11,132,037
Portion cost-shares for enduring practices	92%	95%	96%	97%

Data for selected practices or practice group

Practice or practice group	1970 ACP		1971 REAP		1972 REAP		1973 REAP	
	Cost-shares	Percent of total	Cost-shares	Percent of total	Cost-shares	Percent of total	Cost-shares	Percent of total
	Mil. $	Percent	Mil. $	Percent	Mil. $	Percent	Mil. $	Percent
Pollution-abatement practices	1.4	0.8	8.8	6.5	23.2	12.7	25.7	14.0
Forestry practices (trees or shrubs planted or stands improved)	4.7	2.8	7.0	5.2	9.4	5.2	3.3	1.8
Water storage reservoirs	15.4	9.3	15.7	11.7	21.7	11.9	27.4	15.0
Water diversions, nonstorage erosion control dams, and structures to protect water outlets and channels	3.4	2.0	3.2	2.4	1.8	1.0	2.1	1.1
Wildlife conservation practices	3.7	2.2	3.8	2.8	1.4	.8	1.0	.5
Enduring vegetative cover established	44.9	27.1	28.7	21.4	45.1	24.7	33.1	18.2
Enduring vegetative cover improved	20.6	12.4	14.7	10.9	23.4	12.8	26.7	14.6
Permanent sod waterways	6.4	3.9	5.0	3.8	-	-	-	-
Stripcropping systems	.7	.4	.6	.4	.6	.4	.5	.3
Terrace systems	4.8	2.9	3.7	2.7	6.0	3.3	5.4	3.0
Competitive shrub control	6.2	3.7	4.3	3.2	1.8	1.0	1.2	.6
Drainage	13.7	8.2	7.8	5.8	8.3	4.6	13.2	7.2
"Temporary" (annual) practices	14.0	8.4	6.3	4.6	7.0	3.8	5.4	2.9

1/ Excludes Emergency Conservation Measures (ECM) and Naval Stores Conservation Program (NSCP) except that NSCP is included in size of program authorized.

ASCS/EL
5/30/75

WILL THE FAMILY FARM SURVIVE IN AMERICA? IMPACT OF ENVIRONMENTAL REGULATIONS ON SMALL FARMERS

WEDNESDAY, OCTOBER 22, 1975

U.S. SENATE,
SELECT COMMITTEE ON SMALL BUSINESS,
COMMITTEE ON PUBLIC WORKS, AND THE
COMMITTEE ON AGRICULTURE AND FORESTRY,
Washington, D.C.

The committees met, pursuant to recess, at 9:30 a.m., in room 2221, Dirksen Senate Office Building, Senator Gaylord Nelson (chairman of the Select Committee on Small Business) presiding.

Present: Senators Nelson, Mondale, and Stafford.

Also present: James S. Medill, counsel, Small Business Committee; Jeffrey Nedelman, legislative director to Senator Nelson; Judy Affeldt, research assistant to Senator Nelson; and Warren Sawall, professional staff member of the Employment, Poverty, and Migratory Labor Subcommittee.

Senator NELSON. The joint hearings of the Small Business Committee, the Public Works Committee, and the Agriculture and Forestry Committee will come to order.

Three schools of thought seem to be emerging in these hearings as to the methodology the Environmental Protection Agency (EPA) should use to comply with sections 402 and 301 of the Federal Water Pollution Control Act Amendments of 1972 and Judge Flannery's court order of June 10, 1975, relating to concentrated animal feeding operations.

First, the EPA has recommended that legislation be passed to enable the Administrator of the EPA discretion to exempt certain classes of point sources from compliance with the National Pollutant Discharge Elimination System (NPDES) permit program. Such a statutory change would have, in my judgment, most serious ramifications and should be examined only after other administrative options have been exhausted and further hearings conducted.

Second, the EPA could issue a blanket permit to all feedlots; EPA could require certain feeding operations according to an animal unit formula to file for a NPDES permit; or EPA could develop a combination and variation of the above.

These approaches have several problems: (a) It seems to ignore the only legislative history we have on this subject. (b) Congress simply did not intend that each and every feedlot be considered a point source of pollution.

p. 88 blank

Judge Flannery has upheld that view in his memorandum of opinion when he stated, "the very nature of this term requires that agency discretion be exercised to determine what is encompassed within its scope."

Judge Flannery indicated later in his memorandum, "it appears that the Congress intended for the agency to determine, at least in the agricultural and silvicultural areas, which activities constitute point and nonpoint source."

These NPDES permit approaches presented by the EPA yesterday ignore both the legislative history and Judge Flannery's opinion. And (c) it forces the industry to comply with regulations not yet promulgated.

The problem raised by promulgating NPDES and effluent limitations for storm sewers can, and should, in my opinion, be handled separately. The law (P.L. 92–500) gives the Administrator authority to promulgate regulations for classes and subclasses of point sources. The EPA should exercise that authority in this instance.

Finally, the legislative history and the thrust of Judge Flannery's memorandum of opinion could be followed, if the EPA promulgated regulations for feeding operations by defining the term "concentrated animal feeding operation."

In developing such a definition, I believe the EPA should look at the basic principles of the Muskie-Dole colloquy. There seems to be a strong foundation for a numerical cutoff. Whether the figures Senator Muskie used are too high should be addressed in terms of water quality improvement compared to cost and economic impact.

In addition, there seems to be a little doubt that a feedlot having a manmade collection system that discharges waste into a stream should be considered a point source.

Finally, if a feedlot has a stream running through it, consideration should be given to fencing or limiting access by animals. The definitions of a collection system and stream can, I believe, be settled with little controversy.

We will insert in the record the statements of Senator Hubert H. Humphrey and the Honorable Robert W. Kastenmeier.

[Documents follow:]

STATEMENT OF HON. HUBERT H. HUMPHREY, A U.S. SENATOR FROM THE STATE OF MINNESOTA

Mr. Chairman, I appreciate the opportunity of appearing at this hearing. The issues raised here are complex in attempting to develop a realistic course which balances the concern of all of us for improving the environment and at the same time avoiding placing major new requirements on our small farmers.

During the past two years, over 5,000 dairy farmers were driven out of production in Minnesota alone. I do not want to support an unreasonable approach which would add to these numbers.

In my statement, I refer to the experience of Kansas and Nebraska in developing a set of livestock numbers—300 head of beef cattle or its equivalent—which would provide some useful guidance in balancing the needs of our farmers and our concern over improving the environment. I would suggest that this experience be reviewed carefully in terms of whether it would serve as an approach in resolving this issue.

During the period 1954 to 1973, the U.S. agricultural production was taken for granted as food production increased faster than demand. But today we cannot take these things for granted and we must be cognizant of the impact of constraints placed on agriculture.

Prior to 1972, agricultural producers were largely unaffected by pollution control legislation. The one exception stems from the reactivation of the Refuse Act of 1899 in April 1971. This Act required that all persons discharging wastes (excluding sewage, street runoff and boat discharges) into waterways to apply for a permit or face prosecution. Enforcement, related to agricultural producers, was suspended for small producers and applied to those having 1,000 or more head of beef cattle and equivalent size operations.

Enactment of PL 92–500, the Federal Water Pollution Control Act Amendments of 1972, increased the emphasis on controlling effluents. EPA was given greater authority to improve water quality through effluent control under the National Pollutant Discharge Elimination System (NPDES) and Effluent Guidelines and Standards provisions of the Act. This authority creates a new challenge for agriculture.

Initially, EPA proposed regulations to establish uniform application forms to secure information from "all" engaged in agricultural production. Each operator was to complete the application fee. The sweeping regulations issued on December 5, 1972, led to strong protests from farmers and agricultural organizations. In response to these protests, EPA reproposed regulations after establishing a cutoff for application at the level of 1,000 head or more of been and numbers of the livestock with excretions roughly approximating the wastes of 1,000 beef cattle. The minimum number of animals under these regulations are as follows:

Type of animal	Number of animals per feedlot	Number of applications expected
Slaughter and feeder cattle	1,000	2,500
Mature dairy cattle (milker or dry)	700	125
Swine over 55 lb	2,500	800
Sheep	10,000	100
Turkeys	55,000	300
Laying hens and broilers in confinement facilities with continuous overflow watering	100,000	100
Laying hens and broilers in confinement facilities with liquid manure handling systems	30,000	100
Ducks	5,000	80
Total		4,105

Source: 38 F.R. 10960, May 3, 1973.

This size cutoff became the basis for both the NPDES Program (finalized on July 5, 1973) and the effluent guidelines and standard of performance for new animal feedlots on February 14, 1974. Although these regulations appeared to be generally acceptable to agricultural interests, they did not fulfill the recent goals of Congress and environmentalists.

The legislative history of PL 92–500, however, provides some insight into the development of EPA's exclusions: the debate between Senators Dole and Muskie identifies 1,000 head of beef as the level for distinguishing between "point and non-point" sources.

> Mr. Dole. Another question of real concern to many farmers, stockmen and others in agriculture involves the terms "point source" and "nonpoint source."
>
> Most sources of agricultural pollution are generally considered to be nonpoint sources.
>
> My question is: Simply, to what sources of guidance are we to look for further clarification of the terms "point source" and "nonpoint source"—especially as related to agriculture?
>
> Mr. Muskie. Guidance with respect to the identification of "point sources" and "nonpoint sources," especially as related to agriculture, will be provided in regulations and guidelines of the Administrator. The present policy with respect to the identification of agricultural point sources is generally as follows:
>
> First. If a man-made drainage ditch, flushing system or other such device is involved and if measurable waste results and is discharged into water, it is considered a "point source."
>
> Second. Natural runoff from confined livestock and poultry operations are not considered a "point source" unless the following concentrations of animals are exceeded: 1,000 beef cattle; 700 dairy cows; 290,000 broiler chickens; 180,000 laying hens; 55,000 turkeys; 4,500 slaughter hogs; 35,000 feeder pigs; 12,000 sheep or lambs; 145,000 ducks.

> Third. Any feedlot operation which results in the direct discharge of wastes into a stream which traverses the feedlot are considered point sources without regard to the number of animals involved.
>
> I would like to say that the measure we are now considering is legislation which, at least in its first stage, the first 5 years, is an enormous step forward in our common struggle to restore the quality of our environment. It is legislation which will establish a specific timetable for the achievement of national water quality standards, and I believe it correctly seeks to achieve these standards during this first phase by requiring that the best practical technology be applied to the control of industrial discharges of pollutants.
>
> It also requires periodic review of applicable regulations, so that they can be tightened from time to time in the light of new technological developments.

In November 1973, the Conservation and Natural Resources Subcommittee of the Committee on Government Operations held hearings to determine whether Federal pollution control laws are being administered efficiently, economically and implemented in a manner to control pollution from feedlots. The Committee recommended that EPA re-evaluate their regulations and propose and promulgate regulations that would encompass all concentrated animal feeding operations and not just those with over 1,000 or more animal units.

The Natural Resources Defense Council, Inc. filed suit against EPA to regulate several categories of point sources that are currently exempted by EPA regulations. The Courts have directed EPA to bring the excluded categories into the permit program within one year. Thus, EPA must comply with the Courts' decree.

Many questions arise from attempts to implement the regulations. The most important are these:

1. Should there be exclusions for agricultural and silvicultural activities? If so at what level or under what conditions should the exclusions be granted?
2. How much will agricultural pollution control cost?
3. Will pollution control reduce agricultural production?
4. Will the livestock production industry face serious disruptions?
5. What impact will pollution control have on consumer prices?

EXCLUSIONS

The controversy that became evident by EPA's early attempt to implement the program to control pollution from feedlot sources has not been resolved despite hearings held by a Subcommittee of the House Government Operations Committee and the suit by the National Resources Defense Council. The controversy is a legal as well as a semantical question.

The legal question stems from the promulgation of July 5, 1973, which states in part:

"1. *General exclusion of discharges from agricultural and silvicultural activities.* In the United States, there are three million more farmers engaged in a variety of agricultural and silvicultural activities. Inconnection with crop production, some water from most farms is returned to navigable waters, as the term "navigable waters" is defined in the Act. The expenditure in time, dollars, and resources necessary to process applications from every small farmer subject to NPDES requirements would be disproportionate to the water quality benefits obtained. In order to prevent the diversion of the Agency's limited resources from the larger, significant point sources of pollution, the amendments proposed herein exclude the smaller, insignificant agricultural and silvicultural discharges (including minor irrigation return flow discharges and runoff from fields, orchards, and crop and forest lands) from the requirements of the NPDES."

EPA's initial attempt to control feedlot pollution was viewed as a prospective agricultural inventory for land use planning, while the second attempt was viewed as administratively twisting the law and thwarting congressional intent by excluding some point sources from permit requirements.

The dichotomous views on what constitutes a source of pollution has not been resolved despite the congressional hearings and the legal decision that EPA was not fulfilling the intent of the Act.

The solution to this problem is not likely to come from producers or environmentalists. Instead the solution might come from experience. Kansas and Nebraska were among the States that responded to pollution problems prior to any Federal efforts. Their regulations are summarized below:

Great Plains

Kansas.—Kansas regulations pertaining to livestock producers are specified in the State Board of Health regulations. In these regulations, a confined feeding operation is defined as:

1. Any confined feeding of 300 or more cattle, swine, sheep, or horses at any one time, or
2. Any animal feeding operation less than 300 head using a lagoon, or
3. Any other animal feeding operation having a pollution potential, or
4. Any other animal feeding operation whose operator elects to come under these regulations.

The operator of any newly proposed confinement feeding operation must register prior to construction and operation of the lot, pen, pool, or pump. The operator of any existing feeding operations, as defined by these regulations, was required to register by January 1, 1968, by completing a State provided registration form.

Kansas regulations specify minimum requirements which must be met unless other available information indicates that adequate water pollution control can be effected with less than these requirements. These requirements are as follow:

> Cattle: The minimum water pollution control facilities for confined feeding of cattle are retention ponds capable of containing three inches of surface runoff from feedlot area, waste storage areas, and all other waste-contributing areas. Diversion of surface drainage prior to contact with confined feeding areas or manure or sludge storage areas shall be permitted. Waste retained in retention ponds should be disposed of as soon as practicable to insure adequate retention capacity for future needs.
>
> Swine: Waste retention lagoons for swine feeding operations may be allowed in lieu of waste treatment facilities. Waste retention lagoons must be capable of retaining all animal excretia, litter, feed losses, pooling waters, wash waters, and any other associated materials and shall additionally be capable of retaining three inches of rainfall runoff from all contributing drainage areas. Diversion of surface drainage prior to contact with the confined feeding area or manure or sludge storage areas shall be permitted. Provision must be made for periodic removal of waste material from retention lagoons.
>
> Sheep: The minimum water pollutions control facilities for confined feeding of sheep shall be retention ponds capable of containing three inches of surface runoff from the confined feeding areas, waste storage areas, and all other waste contributing areas. Diversion of surface drainage prior to contact with the confined feeding area or other storage areas shall be permitted. Waste retained in retention ponds shall be disposed of as soon as practicable to insure adequate retention capacity for future needs.
>
> Other Animals: Other confined feeding operations involving other animals shall be evaluated on their own merits with regard to the water pollution control facilities required, if any.

The Kansas State Department of Health views the primary air pollution problem associated with livestock facilities to be odor; however, the State does not currently have any odor regulation applicable to odors from livestock production facilities. The Kansas State Board of Health adopted new regulations, which were effective on January 1, 1971, relative to air pollution emission control. Pertaining to livestock operations, the only applicable regulation among those which went into effect would be the one which placed limitations on particulate emissions. This regulation will apply to particulate emissions from feed mills, including those located on livestock farms.

Nebraska.—Nebraska regulations are specified under the Water Pollution Control Act. Water quality standards applicable to Nebraska waters were adopted by the Nebraska Water Pollution Council in January, 1969. These standards classify waters in the State and establish limits for various parameters below which these waters cannot be degraded. Runoff from confined feeding operations entering a stream cannot degrade the receiving stream below the water quality limits which have been established for that class of stream. Adjustments by livestock firms could, thus, differ from one class to another.

All feedlots in Nebraska must be registered if any of the following conditions exist:

1. If the maximum number of feedlot animals in confinement at any one time is:
   - (a) Three hundred or more feeder or fat cattle,
   - (b) One hundred or more beef cows,
   - (c) One hundred or more dairy cattle.

(d) Five hundred or more swine,
(e) Two thousand or more sheep,
(f) Three thousand or more turkeys, or
(g) Ten thousand or more chickens, ducks, or geese.

2. Any feedlot that is smaller than the above but is located within 500 feet of any watercourse;
3. Any other feedlot that has water pollution potential; or
4. Any feedlot whose operator elects to register.

Nebraska Water Pollution Control Council has an approval system for feedlots. Feedlot operators file initial information on their operations on a State-approved registration form. With this system, waste control facilities are approved if all runoff from the feeding area is contained through natural or constructed control facilities.

At this time, there are no air pollution control regulations applicable to Nebraska livestock producers.

Other States have patterned their regulations after Kansas and Nebraska. Furthermore, Secretary Butz suggested that EPA adopt such a program nationally. He outlined the following as a possible solution in a letter to EPA in January 1973.

> A " concentrated animal feeding operation" is a feed lot, feed yard, or confined feeding facility having more than 300 animal units at one time. Feed lots, feed yards, or confined feeding facilities shall mean the feeding of livestock on sites or facilities from which wastes must be removed and that are not normally used for raising crops, or on which no vegetation intended for livestock feeding is growing. Thus, permit applications will be required from operators of feed lots, feed yards, or confined feeding facilities having the equivalent of 300 animal units. The following data are suggested as a minima for the requirement of a permit:

Slaughter steers or heifers	300
Dairy cows	200
Broilers	35, 000
Laying hens	32, 000
Turkeys	10, 000
Butcher hogs	1, 200
Feeder pigs	10, 000
Sheep	2, 300

Although the Department of Agriculture later retreated from this suggestion, this level appears to be in concert with the efforts of many States, and thus appears to be a feasible solution to the controversy.

The following tables show the number of farms affected by various levels of control as well as the percent of animals covered. With 300 head equivalent cutoff, 65 percent of the beef cattle would come under control, 8 percent of the dairy cattle, 23 percent of the swine, 84 percent of the turkeys, 87 percent of the ducks, 40 percent of the hens and 54 percent of the broilers.

COSTS

There are numerous factors that affect the impact of pollution control. Responses will vary and could include these.

(1) Some producers will not attempt to comply with pollution regulations; they will either quit the livestock production business and concentrate on other commodity alternatives.

(2) Some will comply with regulations and absorb the cost, however, they may enlarge herd size to capture economies of scale and leave their net income unchanged.

(3) Others will shift to new technology to accomplish the goals of effluent control, and the new technology permits expansion and greater efficiency.

DAIRY

Because of the great regional differences in the structure of the dairy, a regulation based on herd size will affect some regions more than others. The northern herds tend to be smaller, housed in sanchion barns and few have special runoff problems. Nevertheless if all farms were to have runoff control, the smaller farms are more apt to discontinue production, thereby hastening the trend to fewer and larger farms. Pollution control would increase costs by over 50 cents a hundredweight of milk at a 15 cow herd size and require investments of about $200 per animal, which would result in cost increases of $.04 to $.11 per hundred-weight of milk.

These data suggest that adverse economic impacts in dairy producers although higher, would not be disastrous at the level of a 200 cow herd.

The capital investment requirements at various levels of control can also be informative. If all producers are subjected to controls, the investment cost will be $779.8 million, at the 20 cow herd and larger level the investment will be $528.3 million and at the 100 cow herd the investment is $80.1 million. Details by region are shown below:

DECREASE IN TOTAL INVESTMENT BY EXEMPTING SMALL PRODUCERS

Item	North (millions)	Southeast (millions)	Southwest (millions)	South Central (millions)	Plains and Mountains (millions)	Northwest (millions)	Total (millions)	Per farm
Total investment to control runoff:								
All producers	$504.3	$25.9	$27.0	$120.3	$81.0	$21.3	$779.8	$2,550
Producers with 20 or more cows	369.3	21.1	20.9	64.9	37.3	14.8	528.3	2,481
Percent decrease	27	19	23	46	54	31	32	
Producers with 100 or more cows	19.7	13.4	18.0	22.2	3.8	3.1	80.1	5,504
Percent decrease	96	48	33	82	95	85	90	

BEEF

As with dairy cattle, the economies of scale play an important role in the severity of economic impact of pollution control. If all producers are subject to controls the costs will rise to $132.8 million.

Details by region are shown as follows:

NUMBER OF FED-BEEF OPERATIONS REQUIRING RUNOFF CONTROL, CAPITAL OUTLAYS REQUIRED FOR RUNOFF CONTROL SYSTEMS, AND PERCENT AND CUMULATIVE PERCENT OF CAPITAL OUTLAYS, BY FED-BEEF OPERATION SIZE

Size or capacity class	Fed-beef operations with problems	Capital outlays (millions)	Percent of total capital outlays	Cumulative percent of total capital outlays
Eastern States:				
Less than 100	38,129	91,789	69.2	69.2
100 to 199	4,248	12,435	9.3	78.5
200 to 499	2,896	10,053	7.6	86.1
500 to 999	706	3,736	2.8	88.9
Western States: Less than 1,000	2,244	7,413	5.6	94.5
Eastern States: 1,000 and over	471	5,212	3.9	98.4
Western States:				
1,000 to 7,999	107	771	.6	99.0
8,000 to 15,999	19	434	.3	99.3
16,000 and over	13	943	.7	100.0
Total	48,833	132,780	100.0	

Translating these investments into per animal costs suggests that considerable control can be attained without bankrupting the producer if one is conscientious of the economic impact.

CONCLUSION

The continual uncertainty of feedlot pollution-control fostered by lawsuits and congressional inquiry does not provide a comfortable base for farmers' decision-making. It is understandable that anxiety has been strong in the case of the small producers.

Existing studies tend to suggest that establishing pollution control levels on the basis of herd size is not a sure cure for pollution. However, studies and the experience of some States indicate that pollution control regulations based at or near the level of 300 head of beef or its equivalent does provide a workable means of compromising environmental goals with the economics problems facing the farmer.

STATEMENT OF HON. ROBERT W. KASTENMEIER, A U.S. REPRESENTATIVE FROM THE STATE OF WISCONSIN

Mr. Chairman, members of this subcommittee, thank you for the opportunity to present my views on the impact of environmental regulations on the small farmer. First let me note that I represent a district which on a dollar basis, produces 18 percent of Wisconsin's milk production and 31 percent of its beef. Last year, this production amounted to nearly $388 million in sales.

However, one should not be misled into thinking that Wisconsin's farmers are unusually well off. Despite this level of gross income, the net left to farmers is very modest and proof of this lies in the fact that last year, over 1,000 Wisconsin farmers quit. That is why I welcome the initiative taken by this Committee in holding these hearings to determine what effect extending the national pollutant discharge elimination system will have on small farms.

When Congress enacted the 1972 Federal Water Pollution Control Act, it did not intend that family-sized farms should be required to install special equipment to control runoff from feeding operations. Senator Muskie's colloquy during debate on the 1972 Act, clearly sets forth criteria which the EPA should follow in determining what farming operations should be regulated under the Act. The criteria states:

"If a man-made drainage ditch, flushing system or other such device is involved and if any measurable waste results and is discharged into water, it is considered a 'point source.' Natural run-off from confined livestock and poultry operations are not considered a 'point source' unless the following concentrations of animals are exceeded: 1,000 beef cattle 700 dairy cows, 290,000 broiler chickens, 180,000 laying hens, 55,000 turkeys, 4,500 slaughter hogs, 35,000 feeder pigs, 12,000 sheep or lambs, 145,000 ducks. Any feedlot operations which result in the direct discharge of waste into a stream that transverses the feedlot are considered point sources without regard to number of animals involved."

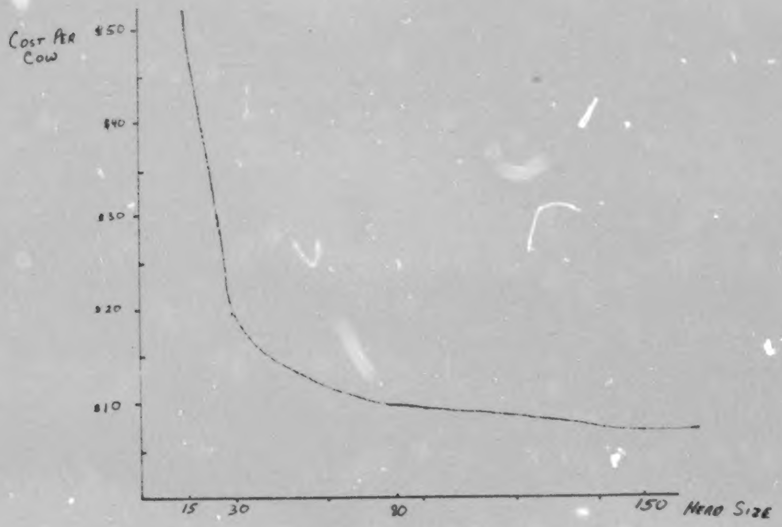
Illustration of how the costs of regulation can vary by the size of farms regulated can be found in a January 1975 Report of the Senate Agriculture Committee, which was prepared by the Library of Congress. That report concluded that regulating *all* dairy farms would require a total national investment of $780 million; with 90 percent of the costs of regulation falling on producers with herds of less than 100 cows. This would not only affect farmers but also consumers who would find higher costs in the supermarket.

If regulations were applied to only the dairy herds with over 100 cows, the total national cost would be $80 million, substantially less than the $780 million required to regulate all dairyfarmers. It is a widely accepted fact that the costs of pollution control rise sharply as regulation approaches 100 percent of discharge. Furthermore, dairy herds of less than 100 cows are not the principal source of run-off which we should be concerned with. Herds of less than 100 cows spend much of [illegible] year grazing in pastures while the intent of regulating herds as point sources [illegible] to cover large feed lot operations which concentrate animals in relatively sm[illegible] areas; exceeding the capacity of the land to safely absorb animal wastes. Th[illegible] precisely the reason that Congress intended to exempt family farm operations f[illegible] the requirements of the 1972 act. Family farms do not cause the problem t[illegible] needs to be regulated.

The recent court decision in Natural Resources Defense Council V. Train, which prompted these hearings, suggests the legal method for the EPA to exempt family farms from these regulations. The decision notes that while all point sources of water pollution must be regulated under the permit system, that the EPA should exercise discretion when defining point source and that Congress fully expected the EPA to both keep the administrative workload manageable and keep the economic impact of the requirements on balance with the environmental benefits. The graph which follows this statement illustrates that costs of regulation rise sharply under the range of 80 to 100 cows per herd. I urge the EPA to reconsider its definition of point source so as to optimize the benefits of regulating farm operations under the 1972 law. In light of the Court's decision, this is the only way to sensibly establish the permit program in the national interest.

Accordingly, Mr. Chairman, I urge the Committee to closely follow the implementation of the Court's order by the EPA in light of what Congress intended in enacting the 1972 Act.

Investment and annual costs to collect, store, and dispose of runoff from a 10-year, 24-hour storm event, northern region diary farms.



From table 2, p. 221, January 2, 1975 report entitled, "Potential Effects of Application of Air and Water Quality Standards on Agriculture and Rural Development."

Senator NELSON. The committee is very pleased this morning to welcome Senator Mondale of Minnesota who will introduce a panel of three representatives from the Minnesota Pollution Control Agency.

Senator Mondale, the committee is very pleased to have you here this morning.

Senator MONDALE. Thank you very much, Mr. Chairman. May I commend you and the committee for focusing on what is truly a very profound and serious problem that needs further understanding and possibly action on the part of the Congress, if we are to prevent what could be a truly dangerous set of circumstances from impinging upon the farmers of our country as they seek to deal with the impact of the law as it affected feedlots and dairy farmers as a result of the court decision to which the chairman made reference.

That decision would appear to require an immediate universal application of these requirements to all farmers in the country, and several aspects of that, I think, prove its dramatic undesirability.

First of all, the cost would be unbelievable. It would be an administrative nightmare. As a matter of fact, it may be absolutely unadministrable. It would possibly undermine the whole movement not only in the longrun but shortrun because it would create such uncertainty, that I think the public reaction would be one of antagonism, would be one which doubted the wisdom of the whole effort to deal with the environmental issues that these run on.

The Senator from Wisconsin and myself have been very active in questions dealing with dairy farmers and one of the problems we have had in recent years is the tremendous number and rate of dairy farmers who are quitting farming entirely, quitting, going into something else.

If each of them now is required to pay one $100 or $200 or $300 per head on their dairy herd to immediately meet these standards, I would anticipate that we would see an even greater exodus from dairy farming than that we have suffered already.

For that reason I am very pleased that the committee has decided to focus on this problem and to do so in this expeditious way. Coming from Minnesota I am very grateful to the chairman for beginning with a panel of experts from the Minnesota Pollution Control Agency.

I am told that the EPA considers that the Minnesota effort is one of the soundest and most practical methods to administer polution control on feedlots including dairy farms. We have with us today a panel of Minnesotans who have been dealing with this problem in our State and they have helped shape that program which at least the EPA finds to be a most impressive one.

Therefore, I am pleased to introduce Louis Breimhurst, who is the director of division of water quality of the Minnesota Pollution Control Agency; Mr. Terry Huntrods, chief of agricultural waste section, division of solid waste, MPCA; and Randy Burnyeat, staff engineer, permit section, division of water quality.

Senator NELSON. Thank you very much.

There will be two rollcall interruptions this morning and I hope we will be able to continue without interruption by having some members vote early and continue the hearings.

The committee is very pleased to welcome you gentlemen here this morning. I believe you each have prepared statements.

STATEMENT OF LOUIS J. BREIMHURST, DIRECTOR OF DIVISION OF WATER QUALITY, MINNESOTA POLLUTION CONTROL AGENCY, ROSEVILLE, MINN., ACCOMPANIED BY TERRY HUNTRODS, CHIEF OF AGRICULTURAL WASTE SECTION, DIVISION OF SOLID WASTE, MPCA; AND RANDY BURNYEAT, STAFF ENGINEER, PERMIT SECTION, DIVISION OF WATER QUALITY, MPCA

Mr. BREIMHURST. We have one prepared statement. I will read that. The other gentlemen are here to answer question as they arise.

Senator NELSON. Your statement will be printed in full in the record. If you can summarize it, it would be helpful.

Mr. BREIMHURST. Mr. Chairman, Senator Mondale, and members of the Senate Select Committee on Small Business, thank you for inviting the testimony of the Minnesota Pollution Control Agency on Federal and State regulatory efforts to control pollution from farm animal wastes.

I am appearing here today on behalf of Mr. Peter L. Gove, executive director of the Minnesota Pollution Control Agency. My name is Louis J. Breimhurst, and I am director of the agency's division of water quality. With me is Mr. Randy Burnyeat and Mr. Terry Huntrods, both staff agricultural engineers with the agency.

We were present yesterday when representatives of the U.S. Environmental Protection Agency outlined alternative approaches to comply with the U.S. district court ruling that disapproved the U.S. EPA's previous threshold level of 1,000 animal units for feedlots that must obtain a discharge permit as required by regulations promulgated under provision of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92–500).

We will offer some comments on the U.S. EPA testimony, but those comments do not appear in the text before you.

In general, we as staff of a pollution control agency that has had extensive experience in dealing with animal feedlot pollution do not feel that it is necessary or realistic to require that every farmer tending animals must obtain a discharge permit from the Federal Government prior to operating a feedlot, a dairy farm or other livestock operation.

Such a requirement would mean that extensive time and effort would be spent in needless paperwork both for Government and for the farmer because there are countless thousands of livestock operations that do not pose a serious pollution problem.

Unless the Government would provide the substantial funding necessary to properly enforce a pollution-control program affecting hundreds of thousands of permittees, we fear that the regulator effort would become so bogged down in needless paperwork that success in abating pollution from agricultural sources would be seriously jeopardized.

If the courts ultimately hold that the law, as written, requires that all livestock managers must receive a Federal discharge permit, then we would strongly support amending Public Law 92–500 so that pollution from animal wastes is controlled rather than livestock operations being licensed for the sake of being licensed.

In his letter to Mr. Gove inviting testimony from the Minnesota Pollution Control Agency, Senator Mondale asked that we provide the committee with an explanation of Minnesota's efforts in pollution control from animal wastes. First, I will provide a brief overview of the situation in Minnesota.

Latest surveys and estimates indicate that there are approximately 90,000 animal facilities in the State of Minnesota of which 32,800 are dairy operations. The vast majority of these are small family operations with an average size of about 40 animal units—one animal unit is the equivalent of one beef animal. We estimate there are approximately 100 operations which fall within the 1,000 animal unit limit under the current NPDES feedlot permit program.

Most of our existing operations were built before 1900 on sloped lots to promote rapid drainage. This fact, combined with the high recreational quality of our many lakes and streams and the humid climate in this area, has created a unique problem. Very few of our livestock operations, taken by themselves, could be considered significant contributors to the pollution of a watershed. Taken collectively, however the livestock operations in a rural watershed can be a major source of pollution.

During the 1960's attention was focused on the water quality problems related to agricultural feedlot sources. As a result, in 1969, the Minnesota Pollution Control Agency was assigned to work with the Governor's Agricultural Advisory Committee toward development of regulations to control agricultural point source pollution.

This group, composed of farmers, agri-business representatives and farm organizations, prepared a draft copy of the regulations which were finally approved by the agency board on April 16, 1971.

These regulations recognize that animal waste need not be a pollution hazard, but rather a valuable resource that should be managed properly. They also recognize that even the very small feedlots can present a pollution hazard if not properly managed.

Using these regulations, a program was developed to both correct existing pollution problems and to insure that new installations do not create pollution hazards. This is done by reviewing feedlot operations at the time a farmer makes a monetary investment into the operation.

A State agency permit to construct and operate a feedlot is required when a feedlot operator is:

1. Starting a new operation.
2. Expanding existing operations.
3. Modifying an existing facility.
4. Purchasing an existing feedlot.

The permit application is reviewed to insure that the operation meets State location requirements, that it is managed properly and that the feedlot wastes are properly applied to the land as fertilizer. Since the inception of the Minnesota State feedlot pollution control program, approximately 4,300 permits have been issued.

As the State feedlot permitting program became operational, it was recognized that there was a need for increased input at the local and county level.

In January of 1974, State regulations were adopted to allow the counties to enter into a joint working agreement with the Minnesota Pollution Control Agency.

Under these regulations, county boards may, at their option, and under approval of our agency, choose to issue, deny, modify, impose conditions on, or revoke feedlot permits in their county.

The counties designate a county feedlot officer who acts as the local liaison official. He conducts inspections and makes recommendations back to the Minnesota Pollution Control Agency staff and to his county board. This program is advantageous to both the county and the Minnesota Pollution Control Agency by insuring that county and State regulations are met in the permitting process.

We have received support from such farm organizations as the Minnesota Farm Bureau, the Minnesota Livestock Feeders Association, and the Minnesota Farmers Union. Representatives from these organizations along with the Soil Conservation Service, Minnesota Department of Agriculture, University of Minnesota Agricultural Extension, and the Minnesota Association of Counties are among members of our State agricultural advisory committee. This group is invaluable in keeping our agency's program responsive to the needs and concerns of the agricultural community.

It is apparent that regulations alone are not the answer. Technical and financial assistance to the farmer should be available. The assistance received by the farmer from the Federal Soil Conservation Service has been an important factor in the success of our program. In fact, about one-third of all soil conservation service assisted feedlot pollution control systems installed in the United States have been installed in Minnesota. Cost sharing administered through the agricultural conservation program of the U.S. Department of Agriculture, Agricultural Stabilization and Conservation Service, has been of great benefit to those feedlot operators who are required to install various pollution control structures. We would like to see this program continued and expanded by Congress.

Senator **Nelson**. Were all of these programs cost-sharing programs of some kind?

Mr. **Breimhurst**. The SCS is a technical assistance program. The second program is a cost-sharing program.

Senator **Nelson**. Under whom, SCS?

Mr. **Breimhurst**. Under the Agricultural Stabilization and Conservation Service.

Senator **Nelson**. How many farms receive cost sharing in Minnesota?

Mr. **Breimhurst**. About one-fourth of the total that we have permitted, so it would be about 1,000 to 1,200.

Senator **Nelson**. And the maximum cost sharing is $2,500; is that correct?

Mr. **Breimhurst**. Yes, sir, that is correct.

Senator **Nelson**. How many received the maximum?

Mr. **Breimhurst**. About 90 percent would have received the maximum amount.

Senator **Nelson**. What was the average total cost counting the Federal contribution and the farmers' contribution?

Mr. **Breimhurst**. Around $4,000, maybe slightly over. The program is 80 percent or $2,500, whichever is less, and the farmer then is not receiving the 80 percent, he is receiving the $2,500 maximum.

Senator **Nelson**. I thought that funds for that program were cut off a couple of years ago.

Mr. **Breimhurst**. They were, sir, but they were reinstated the following year.

Senator **Nelson**. Go ahead.

Mr. **Breimhurst**. In the spring of 1974, the United States EPA, in cooperation with the Minnesota Pollution Control Agency, began soliciting permit applications from feedlot operators having 1,000 or more animal units as required under the regulations promulgated pursuant to Public Law 92-500.

Initially, applications were received as a result of notifications sent by the United States EPA which were prepared from a list of names and locations of known sources which we prepared. In addition to this, a few applications were submitted on a voluntary basis. To inform the large feedlot operator of the NPDES permit program and his obligations under the law, we held a number of informational meetings, prepared a newsletter for distribution to agricultural organizations, and prepared a news release for the media.

To date, 41 applications have been received where a permit has been or will be issued. Under the existing United States EPA feedlot regulations, we estimate there are at least 100 operations that should be permitted either because of size or the presence of a significant pollution hazard.

Both the Minnesota and Federal Feedlot Pollution Control programs have as a goal the abatement of feedlot point source pollution. However, these programs differ in two significant areas. Under the State program, all feedlots, regardless of size are required to apply for a construction and operation permit at the time of monetary investment.

Large feedlot operations of over 1,000 animal units, or those who are determined to be significant contributors of pollution, are required to obtain a NPDES permit under current regulations. The NPDES program requires on-site containment of runoff with a discharge tolerated only if an unusually heavy rainfall occurs. Compliance with NPDES permit requirements usually involves the construction of a conventional runoff control system.

In the Minnesota program we consider alternate methods of discharge control selecting the best management practice suited to the site. The best management practice varies from natural nutrient assimilation to complete collection and containment.

Senator **Nelson**. May I interrupt you? That is the 5-minute bell. Senator McClure should be here to resume. We will recess for a few minutes.

[Whereupon a brief recess was taken.]

Senator **McClure** [presiding]. I am sorry for the brief interruption. You may go ahead and complete your statement.

Mr. **Breimhurst**. Thank you. Continuing at the bottom of page 7.

COORDINATION OF STATE AND FEDERAL PROGRAMS

We have coordinated the State feedlot and the NPDES feedlot programs wherever possible and found this most effective in our dealings with the feedlot operator. Oftentimes because of a facilities expansion or the start of a new operation a State and Federal permit is required. To minimize paperwork and confusion, we have been issuing joint permits in these situations. We cooperatively inspect the facilities and arrange to have officials of the Soil Conservation Service and the County meet with us at the time of inspection to present all regulatory requirements to the applicant. Cooperation between governmental agencies has made our program more efficient and more effective.

ASSESSMENT OF PROPOSED FEEDLOT REGULATION

With the United States EPA now in the position to propose new feedlot regulations which are to include all those point source operations previously excluded from permit program requirements, we will have to permit many more operations, probably in the thousands. Because of the large numbers of feedlots involved, we believe that a traditional discharge permitting approach without some sort of lower limit on size is impractical.

We feel a workable solution would be to allow those States having an approved feedlot pollution control program to accept responsibility for and administer such an expanded program. We believe that because climatic, geologic, and feedlot industry conditions vary so much throughout the country, that the States would be best able to evaluate what is needed to effectively abate pollution from agriculture.

The present no-discharge limitations are not feasible or practical for many of the smaller operations. We feel that various levels of "best management practices" could be established and implemented that recognize the reality of the economic situation and yet provide for an acceptable level of pollution abatement. "Best Management Practices" could include such things as: Grass filter strips, clean water diversion, different manure management techniques, or, if necessary, complete runoff retention.

Any practical program along these lines will require some categorizing of feedlot pollution problems. On a practical level this means that information about existing feedlots be collected and examined with respect to size, location, and method of operation.

Because no inventory of livestock operations presently exists in Minnesota, it is nearly impossible to determine which of the feedlots in any watershed are doing the damage. Until an inventory is taken, all feedlots must be treated as if they are significant contributors. This creates inconsistencies in that a feedlot may come to our attention through a permit application and the operator may be required to invest several thousand dollars in pollution control structures, while another feedlot in the same area may have a much more serious problem and yet go undetected.

We believe the only equitable method of determining which feedlot operation needs pollution control is to conduct a feedlot inventory. Information from this inventory could be merged with existing information about the stream or lake water quality to categorize the feedlots according to size, degree of pollution hazard and the overall watershed water quality problem.

If the United States EPA adopted a program of State determination according to pollution hazard, Minnesota could merge its existing program with the Federal program. The impact of agricultural pollution is very significant but, to this point, State and Federal regulatory agencies have not adequately addressed the problem.

The United States EPA is currently faced with the difficult task of developing all-inclusive feedlot regulations which are equitable, practical, feasible, and within the terms and conditions of Public Law 92-500. At present, the law requires that all point source dischargers, implement "best practicable control technology currently available," by July 1, 1977. It is virtually impossible at this late date to develop and implement a worthwhile program and meet the July 1, 1977, deadline. If Public Law 92-500 needs to be amended to do the job which needs to be done, we would be in support of the necessary legislation.

In Minnesota, there are a number of small industries who will be unable to meet the July 1, 1977, deadline because of economic hardship. One of the hardest hit is the small creamery, a phase of the dairy industry which is of vital importance to the small dairy farmer and the rural community.

A review of our NPDES permit files indicates that there are approximately 45 small creameries in this situation. On July 22, 1975, our agency's nine-member citizen board passed a resolution which supports amending Public Law 92-500 to provide that extensions to the July 1, 1977, compliance date be authorized for small point sources other than publicly owned treatment works for which the following can be demonstrated:

1. The existence of economic hardship.
2. The benefits from compliance are not justified by the social and economic disruption.
3. The noncomplying discharge will be corrected during the time extension.

Attached to our statement is a copy of that resolution. We would like to express our strong support of this resolution even though it is not directly related to the development of new feedlot regulations, which is the primary purpose of this meeting.

In summary, we believe that any new feedlot regulatory program should take the following points into consideration:

1. The traditional approach to discharge permitting would prove to be unworkable if applied to all feedlots. New approaches must be found and implemented.

2. We believe that the concept of "Best Management Practices" is highly desirable as compared to the relatively rigid concept of "Best Practicable and/or Available Technology" in terms of both economic factors and site-specific considerations.

3. We believe that any practical attempt to solve the agricultural pollution problem must include the ranking of feedlots according to their existing pollution potential.

4. Minnesota has had extensive experience in administering a feedlot program that is applicable to local conditions. We believe that the States, following Federal guidelines, should be given the latitude to determine which feedlot operations are in compliance and do not need the NPDES permit, and which operations require a NPDES permit.

In light of our experience with the regulation of feedlots at both the State and Federal level, the State of Minnesota would like to assist the U.S. EPA in the development of new feedlot regulations and is ready to serve as a demonstration State for any programs which would involve State participation.

That concludes the prepared text, Mr. Chairman.

[Document follows:]

STATEMENT OF PETER L. GOVE, EXECUTIVE DIRECTOR, THE MINNESOTA POLLUTION CONTROL AGENCY

Mr. Chairman, Senator Mondale, and Members of the Senate Select Committee on Small Business, than you for inviting the testimony of the Minnesota Pollution Control Agency on Federal and State regulatory efforts to control pollution from farm animal wastes. I am appearing here today on behalf of Mr. Peter L. Gove, Executive Director of the Minnesota Pollution Control Agency. My name is Louis J. Breimhurst, and I am Director of the Agency's Division of Water Quality. With me is Mr. Randy Burnyeat and Mr. Terry Huntrods, both staff agricultural engineers with the Agency.

We were present yesterday when representatives of the U.S. Environmental Protection Agency outlined alternative approaches to comply with the U.S. District Court ruling that disapproved the U.S. EPA's previous threshold level of 1,000 animal units for feedlots that must obtain a discharge permit as required by regulations promulgated under provision of the Federal Water Pollution Control Agency of 1972 (Public Law 92-500). We will offer some comments on the U.S. EPA testimony, but those comments do not appear in the text before you.

In general, we as staff of a pollution control agency that has had extensive experience in dealing with animal feedlot pollution do not feel that it is necessary or realistic to require that every farmer tending animals must obtain a discharge permit from the Federal Government prior to operating a feedlot, a dairy farm or other livestock operation. Such a requirement would mean that extensive time and effort would be spent in needless paperwork both for government and for the farmer because there are countless thousands of livestock operations that do not pose a serious pollution problem.

Unless the government would provide the substantial funding necessary to properly enforce a pollution-control program effecting hundreds of thousands of permittees, we fear that the regulatory effort would become so bogged down in needless paperwork that success in abating pollution from agricultural sources would be seriously jeopardized. If the courts subsequently determine that the law, as written, requires that all livestock managers must receive a Federal discharge permit, then we would strongly support amending Public Law 92-500 so that pollution from animal wastes is controlled rather than livestock operations being licensed for the sake of being licensed.

In his letter to Mr. Gove inviting testimony from the Minnesota Pollution Control Agency, Senator Mondale asked that we provide the Committee with an explanation of Minnesota's efforts in pollution control from animal wastes. First, I will provide a brief overview of the situation in Minnesota.

Latest surveys and estimates indicate that there are approximately 90,000 animal facilities in the State of Minnesota of which 32,800 are dairy operations. The vast majority of these are small family operations with an average size of about 40 animal units (one animal unit is the equivalent of one beef animal). We estimate there are approximately 100 operations which fall within the 1,000 animal unit limit under the current NPDES [1] feedlot permit program.

Most of our existing operations were built before 1900 on sloped lots to promote rapid drainage. This fact, combined with the high recreational quality of our many lakes and streams and the humid climate in this area, has created a unique problem. Very few of our livestock operations, taken by themselves, could be considered significant contributors to the pollution of a watershed. Taken collectively, the livestock operations in a rural watershed are usually a major point source of pollution.

STATE PERMITTING PROGRAM

During the 1960's water quality problems related to agricultural feedlot sources were discovered. As a result, in 1969, the Minnesota Pollution Control Agency was assigned to work with the Governor's Agricultural Advisory Committee toward development of regulations to control agricultural point source pollution. This group, composed of farmers, agribusiness representatives and farm organizations, prepared a draft copy of the regulations which was finally approved by the Agency Board on April 16, 1971. These regulations recognize that animal waste need not be a pollution hazard, but rather a valuable resource that should be managed properly. They also recognize that even the very small feedlots can present a pollution hazard if not properly managed. Using these regulations, a program was developed to both correct existing pollution problems and to insure that new installations do not create pollution hazards. This is done by reviewing feedlot operations at the time a farmer makes a monetary investment into the operation. A state agency permit to construct and operate a feedlot is required when a feedlot operator is:

1. starting a new operation;
2. expanding existing operations;
3. modifying an existing facility; and
4. purchasing an existing feedlot.

The permit application is reviewed to insure that the operation meets state location requirements, that it is managed properly and that the feedlot wastes are properly applied to the land as fertilizer. Since the inception of the Minnesota state feedlot pollution control program, approximately 4,300 permits have been issued.

As the state feedlot permitting program became operational, it was recognized that there was a need for increased input at the local and county level. In January of 1974, state regulations were adopted to allow the counties to enter into a joint working agreement with the Minnesota Pollution Control Agency.

Under these regulations, County Boards may, at their option, and upon approval of our Agency, choose to issue, deny, modify, impose conditions on, or revoke feedlot permits in their county. The counties designate a county feedlot officer who acts as the local liaison official. He conducts inspections and makes recommendations back to the Minnesota Pollution Control Agency staff and to his County Board. This program is advantageous to both the county and the Minnesota Pollution Control Agency by insuring that county and state regulations are met in the permitting process.

We have received support from such farm organizations as the Minnesota Farm Bureau, the Minnesota Livestock Feeders Assn., and the Minnesota Farmers Union. Representatives from these organizations along with the Soil Conservation Service, Minnesota Department of Agriculture, University of

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[1] The National Pollutant Discharge Elimination System (NPDES) is a Federal program developed by the U.S. Environmental Protection Agency pursuant to the Federal Water Pollution Control Act (PL 92-500).

Minnesota Agricultural Extension, and the Minnesota Association of Counties are among members of our state Agriculture Advisory Committee. This group is invaluable in keeping our Agency's program responsive to the needs and concerns of the agricultural community.

It is apparent that regulations alone are not the answer. Technical and financial assistance to the farmer should be available. The assistance received by the farmer from the Federal Soil Conservation Service has been an important factor in the success of our program. In fact, about one third of all Soil Conservation Service assisted feedlot pollution control systems installed in the United States have been installed in Minnesota. Cost sharing administered through the rural conservation program of the United States Department of Agriculture—Agricultural Stabilization and Conservation Service has been of great benefit to those feedlot operators who are required to install various pollution control structures. We would like to see this program continued and expanded by Congress.

FEDERAL PERMITTING PROGRAM

In the spring of 1974, the U.S. EPA, in cooperation with the Minnesota Pollution Control Agency, began soliciting permit applications from feedlot operators having 1000 or more animal units as required under the regulations promulgated pursuant to PL 92–500. Initially, applications were received as a result of notifications sent by the U.S. EPA which were prepared from a list of names and locations of known sources which we prepared. In addition to this, a few applications were submitted on a voluntary basis. To inform the large feedlot operator of the NPDES permit program and his obligations under the law, we held a number of informational meetings, prepared a newsletter for distribution to agricultural organizations and prepared a news release for the media. To date, 41 applications have been received where a permit has been or will be issued. Under the existing U.S. EPA Feedlot Regulations, we estimate there are at least 100 operations that should be permitted either because of size or the presence of a significant pollution hazard.

STATE AND FEDERAL PROGRAM COMPARISON

Both the Minnesota and the Federal Feedlot Pollution Control programs have as a goal the abatement of feedlot point source pollution. However, these programs differ in two significant areas. Under the State program, all feedlots, regardless of size are required to apply for a construction and operation permit at the time of monetary investment. Large feedlot operations of over 1000 animal units, or those who are determined to be significant contributors of pollution, are required to obtain a NPDES permit under current regulations. The NPDES program requires on-site containment of runoff with a discharge tolerated only if an unusually heavy rainfall occurs. Compliance with NPDES permit requirements usually involves the construction of a conventional runoff control system. In the Minnesota program we consider alternate methods of discharge control selecting the best management practice suited to the site. The best management practice varies from natural nutrient assimilation to complete collection and containment.

COORDINATION OF STATE AND FEDERAL PROGRAMS

We have coordinated the State feedlot and the NPDES feedlot programs wherever possible and found this most effective in our dealings with the feedlot operator. Oftentimes because of a facilities expansion or the start of a new operation a State and Federal permit is required. To minimize paperwork and confusion we have been issuing joint permits in these situations. We cooperatively inspect the facilities and arrange to have officials of the Soil Conservation Service and the county meet with us at the time of inspection to present all regulatory requirements to the applicant. Cooperation between governmental agencies has made our program more efficient and more effective.

ASSESSMENT OF PROPOSED FEEDLOT REGULATION

With the U.S. EPA now in the position to propose new feedlot regulations which are to include all those point source operations previously excluded from permit program requirements, we will have to permit many more operations, probably in the thousands. Because of the large numbers of feedlots involved, we believe that a traditional discharge permitting approach without some sort of lower limit on size is impractical. We feel a workable solution would be to allow those states having an approved feedlot pollution control program to accept responsibility for and administer such an expanded program. We believe that because climatic, geologic, and feedlot industry conditions vary so much throughout the country, that the states would be best able to evaluate what is needed to effectively abate pollution from agriculture.

The present no-discharge limitations are not feasible or practical for many of the smaller operations. We feel that various levels of "best management practices" could be established and implemented that recognize the reality of the economic situation and yet provide for an acceptable level of pollution abatement. "Best Management Practices" could include such things as: grass filter strips, clean water diversion, different manure management techniques, or, if necessary, complete runoff retention.

Any practical program along these lines will require some categorizing of feedlot pollution problems. On a practical level this means that information about existing feedlots be collected and examined with respect to size, location, and method of operation.

Because no inventory of livestock operations exists, it is nearly impossible to determine which of the feedlots in any watershed are doing the damage. Until an inventory is taken, *all* feedlots must be treated as if they are significant contributors. This creates inconsistencies in that a feedlot may come to our attention through a permit application and the operator may be required to invest several thousand dollars in pollution control structures, while another feedlot in the same area may have a much more serious problem and yet go undetected.

We believe the only equitable method of determining which feedlot operation needs pollution control is to conduct a feedlot inventory. Information from this inventory could be merged with existing information about the stream or lake water quality to categorize the feedlots according to size, degree of pollution hazard and the overall watershed water quality problem. If the U.S. EPA adopted a program of state determination according to pollution hazard, Minnesota could merge its existing program with the Federal program. The impact of agricultural pollution is very significant but, to this point, State and Federal regulatory agencies have not adequately addressed the problem.

The U.S. EPA is currently faced with the difficult task of developing all-inclusive feedlot regulations which are equitable, practical, feasible, and within the terms and conditions of the PL 92-500. At present, Law requires that all point source dischargers, implement "best practicable control technology currently available" by July 1, 1977. It is virtually impossible at this late date to develop and implement a worthwhile program and meet the July 1, 1977 deadline. If the PL 92-500 needs to be amended to do the job which needs to be done, we would be in support of the necessary legislation.

SMALL INDUSTRIES

In Minnesota, there are a number of small industries who will be unable to meet the July 1, 1977 deadline because of economic hardship. One of the hardest hit is the small creamery, a phase of the dairy industry which is of vital importance to the small dairy farmer and the rural community. A review of our NPDES permit files indicates that there are approximately 45 small creameries in this situation. On July 22, 1975, our Agency's nine-member citizen board passed a resolution which supports amending Public Law 92-500 to provide that extensions to the July 1, 1977 compliance date be authorized for small point sources other than publicly owned treatment works for which the following can be demonstrated:

1. The existence of economic hardship;
2. The benefits from compliance are not justified by the social and economic disruption; and
3. The non-complying discharge will be corrected during the time extension.

Attached to our statement is a copy of that resolution. We would like to express our strong support of this resolution even though it is not directly related to the development of new feedlot regulations, which is the primary purpose of this meeting.

In summary, we believe that any new feedlot regulatory program should take the following points into consideration:

1. The traditional approach to discharge permitting would prove to be unworkable if applied to all feedlots. New approaches must be found and implemented.
2. We believe that the concept of "Best Management Practices" is highly desirable as compared to the relatively rigid concept of "Best Practicable and/or Available Technology" in terms of both economic factors and site-specfic considerations.

3. We believe that any practical attempt to solve the agricultural pollution problem must include the ranking of feedlots according to their existing pollution potential.

4. Minnesota has had extensive experience in administering a feedlot program that is applicable to local conditions, We believe that the states, following federal guidelines, should be given the latitude to determine which feedlot operations are in compliance and do not need the NPDES permit, and which operations require a NPDES permit.

In light of our experience with the regulation of feedlots at both the state and federal level, the State of Minnesota would like to assist the U.S. EPA in the development of new feedlot regulations and is ready to serve as a demonstration State for any programs which would involve state participation.

STATE OF MINNESOTA POLLUTION CONTROL AGENCY, JULY 22, 1975

RESOLUTION

Whereas section 301 of Public Law 92-500 provides that in order to carry out the objective of this act there shall be achieved not later than July 1, 1977, effluent limitations for point sources, other than publicly owned treatment works, which shall require the application of the best practicable control technology currently available, and;

Whereas many small industries and other facilities in the State of Minnesota are in such locations or under such constraints that provision of independent treatment at prohibitive costs would be their only alternative to comply with the above mentioned effluent limitations by July 1, 1977, and;

Whereas the benefits derived from compliance with the required effluent limitations may not outweigh the social and economic costs and dislocation which will result in some cases, and;

Whereas an extension of time beyond July 1, 1977 will provide an opportunity for certain of the above mentioned industries and facilities to develop alternative treatment methods or make connection to municipal treatment facilities completed after July 1, 1977 and thereby come into compliance: Now therefore, be it

Resolved, That the Minnesota Pollution Control Agency Board hereby supports amendment of Public Law 92-500 to provide that extensions to the July 1, 1977 compliance date be authorized for certain point sources other than publicly owned treatment works for which the following can be demonstrated:

1. The existence of economic hardship;
2. The benefits from compliance are not justified by the social and economic disruption: and
3. The noncomplying discharge will be corrected during the time extension.

Senator McCLURE. I am sorry I was called out to vote on the pending matter on the floor.

On the first page of your testimony, you offered some comments on the EPA. As you went past that point, did you make those comments?

Mr. BREIMHURST. We felt after listening to the EPA testimony yesterday that our text does address the points raised by the EPA, and we did not feel it was necessary at this time to restate the position we had taken in our statement.

Senator McCLURE. As I understand your testimony, you say there are approximately 90,000 sources that might be counted as feedlot sources in your State. If I understand it correctly, 100 of those are over 1,000?

Mr. BREIMHURST. Our estimate is there are 100 over the 1,000 animal unit size.

Senator McCLURE. So far you have issued 4,300 permits. Are those 100 over 1,000 animal units included in the 4,300?

Mr. BREIMHURST. In most instances, I would say yes. We have said in our statement we are about to issue 41 permits. In some instances, these are combined Federal and State permits. The 4,300 have State permits, and they may also have an NPDES permit.

Senator McClure. Do all the large units have State permits?

Mr. Breimhurst. Yes.

Senator McClure. So all the 100 units are within the 4,300 State permits?

Mr. Breimhurst. All of the 41 would be in the 4,300, but we are estimating 100 total feedlots above 1,000 animal units, and we do realize there are some we don't have an inventory on, and therefore they may not have a State permit either.

Senator McClure. You have suggested that the States might accept the responsibility under the program. It is my understanding that only about 25 States have done so.

Do you have any knowledge as to how many States have?

Mr. Breimhurst. From the testimony yesterday, Mr. Chairman, I believe the EPA indicated approximately 30 States have accepted the NPDES program. I do not know how many of that number have a State feedlot program.

Senator McClure. Yesterday, Senators Nelson and Stafford suggested the Federal Water Act and its legislative history as interpreted by the courts give EPA latitude in defining point sources and nonpoint sources, and that feedlots below a certain size should be considered nonpoint sources. What comment would you have on that statement or that possibility?

Mr. Breimhurst. Mr. Chairman, not being an attorney, I would hate to interpret the law, but I guess from a practical point of view, we feel that many of the smaller feedlots could be managed under the 208 program rather than getting a specific discharge permit. We feel that best management practices would better approach the goals rather than requiring specific end-of-pipe construction.

Senator McClure. There have been several different approaches to the problem suggested. One is to amend the act. The other is to extend the NPDES program, and the third would be to define concentrated animal feeding operation. If you had to choose between those three, which would you suggest?

Mr. Breimhurst. The State of Minnesota would prefer that the definition would be amended to include the larger feedlots as requiring the NPDES permit. We believe the larger ones are the primary problem that we have in Minnesota.

We don't feel that the traditional permitting approach should be used, however, because from an administrative and practical standpoint, it is not feasible. We don't feel that all of these small feedlots necessarily need a permit or are causing a problem. So I guess we would like to see a combination program redefining the definition of feedlot using a size cutoff, and we are not concerned about the size cutoff used at present. We feel that it is workable in our State because we do have a program that can pick up from there on.

Senator McClure. On page 3 of your statement, you make a comment that, "Very few of your livestock operations taken by themselves could be considered significant contributors to the pollution of a watershed. Taken collectively, the livestock operations in their rural watershed are usually a major point source of pollution."

It seems to me that statement contrasts with the statement you just made.

Mr. Breimhurst. In my oral testimony, Mr. Chairman, I did modify it; with the privilege of editorializing, I said they could be. In some instances in some watersheds, they are, but not in all.

Senator McClure. You would like more flexibility to determine which ones are and which are not?

Mr. Breimhurst. That is exactly it, Mr. Chairman.

Senator McClure. Can you do that by definition of the size of a feedlot operation?

Mr. Breimhurst. Not necessarily. We feel we would need an inventory which would take a look at each site on a case-by-case basis and determine if there is a problem, and on that basis we would categorize the feedlots by a pollution hazard category and possibly a size category. We would then determine which would need a NPDES permit and which ones would need a State permit and which ones would need no permit; in other words, they are in compliance with all aspects. So we do feel we need an inventory before we can effectively administer a program.

Senator McClure. If we are going to have a discretionary approach so you can include or exclude according to a judgment of the factors which make an individual feedlot or group of feedlots a significant problem, what factors should be included in that definition?

Mr. Breimhurst. We have identified a few in our statement. We believe that it would relate to the location of the feedlot, the proximity to a water course. It would relate to the size of the operation. It would relate to the manner in which the operation is managed. So there are many factors that would come into it. We feel that the EPA should be able to define what factors should be considered in identifying problems with feedlots; in other words, set a basic set of guidelines that the States can follow but not make the decision as to which ones are in compliance or are not. That should be left to a local decision using the EPA guidelines.

Senator McClure. As I understand, you have county boards now that make that recommendation. Do they have guidelines?

Mr. Breimhurst. They submit their program to the Pollution Control Agency for approval, and they are using our recommended guidelines.

Senator McClure. Are those a printed set of guidelines, written directions to the county boards as to which ones they should look at and which ones they should not?

Mr. Breimhurst. Mr. Terry Huntrods worked directly with that program, and I would like to have him address that question concerning the county boards.

Mr. Huntrods. Yes, sir, we have regulations which have gone through public hearing and have been approved and are given to all counties participating in our county program. So they do have written guidelines, yes.

Senator McClure. Do you think those written guidelines would be a suitable set of written guidelines for EPA to adopt?

Mr. Huntrods. It would be difficult for me to answer that. We do allow some discretion in our guidelines because conditions vary widely in the State of Minnesota from one side of the state to another. So we have written our guidelines to take this into account.

Senator McClure. If that is true of the State of Minnesota, think how much more it is of trying to write one set of guidelines for 50 States. The conditions vary even more dramatically.

Mr. Huntrods. That is true. That is why we would like to see the States given a larger part in determining what is a problem and what factor should go into determining which feedlot is a problem.

Senator McClure. I am very much in accord with the thrust of what you are saying. I would like very much to find some flexibility in the application of the law. I think we are seeking ways in which we can do that without simply turning it over to the discretion of an administering authority to make it a rather subjective determination based on their own evaluation of the sites.

I wonder if it might not be helpful to the committee if you could provide us with a copy of your instructions to the county boards.

Mr. Breimhurst. Yes, sir. We have them with us, and we will present them to you.

[Documents follow:]

MINNESOTA STATE
REGULATIONS

MINNESOTA POLLUTION CONTROL AGENCY

DIVISION OF SOLID WASTE

1974 EDITION

Regulations for the Processing of Feedlot Permits by the Counties and the Minnesota Pollution Control Agency

January 12, 1974

SW 56 Applicability, Definitions and General Conditions for Processing of Feedlot Permits, Severability and Variances
SW 57 Processing of Animal Feedlot Permits by a County
SW 58 Issuance Modification, or Imposition of Conditions upon Permits by Counties
SW 59 Revocation of Permits by Counties
SW 60 Denial of Permits by Counties
SW 61 Required Records

Cite the rules and regulations as:
(for example)
Minn. Reg. SW1

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Room 140 Centennial Building, St. Paul, Minnesota 55155

MINNESOTA POLLUTION CONTROL DIVISION OF SOLID WASTE

SW 56 Applicability, Definitions and General Conditions for Processing of Feedlot Permits. Severability and Variances.

APPLICABILITY

These are regulations and standards the provisions of which govern the processing of permits for Livestock Feedlots, Poultry Lots and Other Animal Lots by the MPCA and designated County officials under the supervision and review of the Minnesota Pollution Control Agency.

DEFINITIONS

(1) "Animal Unit" — A unit of measure used to compare differences in the production of animal wastes which has as a standard the amount of waste produced on a regular basis by a slaughter steer or heifer. For purposes of these regulations, the following equivalents apply:

	Animal Units
(1) Slaughter steer or heifer	1
(1) Mature dairy cow	1.4
(1) Swine over 55 pounds	.4
(1) Sheep	.1
(1) Turkey	.018
(1) Chicken	.01
(1) Duck	.2

(2) "Designated County Feedlot Pollution Control Officer" is a county employee or other person approved by the County Board, who should be knowledgeable in agriculture and who is designated by resolution of the County Board to receive and process feedlot, poultry lot and other animal lot permit applications.

(3) "Modified" — Change in the operation of an animal feedlot which would affect the generation or disposal of animal waste.

(4) "Addendum" — Document specifying additions to or change in conditions of a Livestock Feedlot, Poultry Lot or Other Animal Lot permit due to the modification of said Livestock Feedlot, Poultry Lot or Other Animal Lot.

GENERAL CONDITIONS

All Livestock Feedlots, Poultry Lots and Other Animal Lots shall be located and operated in a manner that precludes potential pollution hazards to the land, air or waters of the state except where corrective and protective measures approved by the Agency are taken. These regulations outline how Agency approval of animal facilities shall be obtained in the form of a permit for existing and new operations.

SEVERABILITY

If any provision of these regulations or the application thereof to any person or circumstances is held to be invalid, such invalidity shall not affect other provisions or application of any other part of such regulations or any other regulations which can be given effect without the invalid provision of application, and to this end the provisions of all regulations and the various applications thereof are declared to be severable.

VARIANCES

Where upon written application of the responsible person or persons the Agency finds that by reason of exceptional circumstances strict conformity with any provisions of the regulation contained herein would cause undue hardship, would be unreasonable, impractical or not feasible under the circumstances, the Agency may permit a variance from these regulations upon such conditions and within such time limitations as it may prescribe for prevention, control or abatement of land, air or water pollution in harmony with the intent of the State and any applicable Federal laws.

SW 57 Processing of Animal Feedlot Permits by a County

(1) Pursuant to Minnesota Laws 1973, Chapter 573, Minnesota Counties may engage in the processing of animal feedlot permits. "Processing" may, at the option of the county board, include issuing, denying, modifying, imposing conditions upon, or revoking permits in accordance with these regulations.

(2) Any Minnesota county desiring to assume responsibility for processing animal feedlot permits must:

(a) Submit to the Pollution Control Agency a certified copy of a resolution adopted by the county board requesting permission to initiate an animal feedlot permit processing system in the county. Such resolution must be accompanied by a brief statement describing the manner in which the county will implement the permit processing procedures and indicating whether the county will issue, deny, modify conditions upon, or revoke permits under their processing plan.

(b) Receive written approval from the Minnesota Pollution Control Agency authorizing the processing of animal feedlot permits within the county.

(3) Each Minnesota county processing animal feedlot permits shall designate a county feedlot pollution control officer as having the primary responsibility for the feedlot permit program and charge him with the following duties:

(a) Distribute to applicants permit application forms made available through the Minnesota Pollution Control Agency;

(b) Provide, where requested, necessary assistance to applicants to insure that application forms are properly completed. (This includes, for example, the attachment of certain maps, plans, and specifications required under SW 53.)

(c) Following receipt and examination of completed application forms, indicate in writing, to the Minnesota Pollution Control Agency, whether or not the proposed animal feedlot facility will comply with all applicable state and local laws and regulations.

(d) Indicate where it is determined that a proposed facility will not, as planned, meet the requirements of state and local law, those respects in which a variance would be required for the issuance of a permit. A determination of non-compliance may include a variance request with a written recommendation for or against the variance. Where the recommendation supports a variance, the county official must indicate what pollution control devices have been proposed and enclose plans or design specification with the application.

SW 58 Issuance, Modification, or Imposition of Conditions upon Permits by Counties.

(1) Those counties desiring to do so, may, pursuant to their approved permit processing plan, issue, modify, or impose conditions upon animal feedlot permits. For purposes of this regulation, "issuance of an animal feedlot permit" means delivery and cosigning of an animal feedlot permit approved by the Pollution Control Agency or the granting of a permit by a county board where the Pollution Control Agency has not acted on a permit application within 15 days of notification of intent to issue a permit by a designated county official.

(2) A permit shall be required for all livestock feedlots, poultry lots and other animal lots which, after April 16, 1971:

(a) Began operation;

(b) Expanded existing operation by increasing the number of animal units;

(c) Modified existing operation or constructed new facilities; (but did not increase animal units)

(d) Changed ownership. (but did not increase animal units)

The location requirements of SW 54 (2) do not apply to permits issued under (c) and (d) above.

(3) If the county determines that any livestock feedlot, poultry lot or other animal lots, whether or not it existed prior to April 16, 1971 is in fact polluting or constitutes a potential pollution hazard to the land, air or waters of the state, the Agency shall be notified and the county may require the feedlot operator to submit an application for a permit containing plans for pollution abatement. Where the county has notified the Agency of a potential pollution hazard, it shall also notify the Agency as to whether or not the operator has been informed of the requirement for a feedlot permit and pollution control plans under SW 53.

(4) All permit applications shall include the following:

(a) A completed permit application form; (the permit application should be for the maximum number of animals the operator has facilities provided for)

(b) A map or aerial photograph of the area showing all homes, wells, buildings, lakes, ponds, watercourses, wetland, dry runs, rock out croppings, roads and applicable details and shall indicate the general topography with contours and drainage patterns. A north arrow shall be drawn on, the scale shown, and a location insert map be included;

(c) A plan indicating operational procedures, the location and specifications of animal waste collections, storage and/or treatment facilities, land used for the disposal of animal wastes, and the quantity and type of waste to be removed from the site.

(5) In order for the county to issue a permit:

(a) The Minnesota Pollution Control Agency must receive written notification of the intention of the county to issue a permit. Such notification must include the completed permit application together with all applicable details as described in section 4 above;

(b) The Agency shall within 15 days after receipt of written notification of intent to issue a permit review the permit and suspend, modify, disapprove or approve the issuance of said permit. If the Agency fails to act within 15 days, the county board may take action which shall be final, subject to appeal to the district court.

(c) Upon Agency approval of the permit, the permit and display certificate shall be returned to the county for issuance to the operator.

(6) In order for a county to modify or impose conditions upon a permit:

(a) The county shall notify the Minnesota Pollution Control Agency in writing of its intention to modify or impose conditions upon an animal feedlot permit.

(b) A copy of the permit together with the intended modifications and conditions shall be forwarded to the Agency for review. The Agency shall either approve or reject the recommended modifications or conditions. The Agency may also suggest alternative modifications or conditions.

(c) The county must receive Minnesota Pollution Control Agency approval of the proposed modifications or conditions.

SW 59 Revocation of Permits by Counties

(1) Those counties desiring to do so, may, pursuant to their permit processing authority revoke animal feedlot permits.

(2) In order for a county to revoke a permit:

(a) A copy of the permit application or permit together with a written justification for revocation must be submitted to the Pollution Control Agency for review. The Agency shall approve or reverse the revocation.

(b) The county must receive written approval of the permit revocation from the Pollution Control Agency.

(c) Where a revocation has been approved by the Pollution Control Agency, the applicant must be informed in writing by the county of the reasons for denial or revocation.

(d) A revocation of a permit by a county shall be without prejudice to the applicant's right to an appearance before the Pollution Control Agency within 90 days, or for filing a further or new application with the county after revisions are made to meet objections specified as reasons for revocation.

SW 60 Denial of Permits by Counties

(1) In the case of permit denial by a county official the applicant shall be informed in writing

(a) of the reasons for denial;

(b) that if the applicant feels the permit denial is unreasonable, an informal appeal may be made to the Division of Solid Waste;

(c) that denial shall be without prejudice to the applicant's right to an appearance before the Agency within 90 days, or for filing a further application after revisions are made to meet objections specified as reasons for denial. The applicant shall have the right to an appeal pursuant to Minnesota Statutes, Chapter 15.

SW 61 Required Records

(1) The county shall maintain on file a copy of all correspondence and material relating to feedlot permits processed by the county. A copy of the permit and the permit application shall be included. The original permit application shall be on file with the Agency.

(2) Prior to any major change in a feedlot operation an addendum to the original permit shall be applied for describing the change, and when approval given, the addendum shall then be filed with the original permit.

(3) When the ownership and/or management of a permitted operation is changed, the county and state records will be changed upon notification. The new operator will be subject to the conditions of the existing permit unless an approved addendum is added to the permit.

Filed January 11, 1974.

MINNESOTA STATE
REGULATIONS

MINNESOTA POLLUTION CONTROL AGENCY

DIVISION OF SOLID WASTE

1971 EDITION

REGULATIONS FOR THE CONTROL OF WASTES FROM LIVESTOCK FEEDLOTS, POULTRY LOTS AND OTHER ANIMAL LOTS

Filed with the Secretary of State
and Commissioner of Administration, April 1971.

Cite the rules and regulations as
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MINNESOTA POLLUTION CONTROL AGENCY

Division of Solid Wastes

CHAPTER TWO:

Regulations for the Control of Wastes from Livestock Feedlots, Poultry Lots and Other Animal Lots

March 8, 1971

Preamble

SW 51 Applicability, Definitions and General Conditions for Handling, Storage, Transportation and Disposal of Animal Wastes. Severability and Variances

SW 52 Storage Transportation and Disposal of Animal Wastes

SW 53 Registration, Permit Issuance, Denial and Revocation

SW 54 Location Requirements for Livestock Feedlots Poultry Lots and Other Animal Lots

SW 55 Nonconformining Feedlots

MINNESOTA POLLUTION CONTROL AGENCY'S

Regulations for the Control of Wastes from Livestock Feedlots, Poultry Lots and Other Animal Lots

Preamble

An adequate supply of healthy livestock, poultry and other animals is essential to the well being of Minnesota citizens and the nation. They provide our daily source of meat, milk, eggs and fiber. Their efficient, economic production must be the concern of all consumers if we are to have a continued abundance of high-quality, wholesome food and fiber at reasonable prices.

However, livestock, poultry and other animals produce wastes which may, when improperly stored, transported or disposed of, affect Minnesota's environment. Where such wastes could add to air, water or land pollution they must be controlled.

The following regulations for the control of livestock, poultry and other animal wastes are drafted to provide protection against pollution by domesticated animals. They are written with full understanding that animal wastes are often by-products beneficial to the economic production of agricultural crops.

These regulations are written to provide the greatest safe latitude in compliance, taking into consideration that agriculture has 20 to 30 years of experience in successful soil and water conservation. Control measures, where deemed necessary, are to be individually designed and developed to provide the specific controls needed for the operation in question.

These regulations comply with the specific policy and purpose of the State of Minnesota in regard to solid waste control as set forth in Laws 1969, Chapter 1046 (Codified as Minnesota Statutes, Section 116.07).

Subd. 2. The Pollution Control Agency shall also adopt standards for the control of the collection, transportation and disposal of solid waste for the prevention and abatement of water, air and land pollution, recognizing that due to variable factors, no single standard of solid waste control is applicable to all areas of the State. In adopting standards, the Pollution Control Agency shall give due recognition to the fact that elements of control, which may be reasonable and proper in densely populated areas of the State, may be unreasonable and improper in sparcely populated or remote areas of the State, and it shall take into consideration in this connection such factors, including others which it may deem proper, as existing physical conditions, topography, soils and geology, climate, transportation and land use. Such standards of solid waste control shall be premised on technical criteria and commonly accepted practices.

Subd. 4. Pursuant and subject to the provision of Chapter 15, and the provisions hereof, the Pollution Control Agency may adopt, amend and rescind regulations and standards having the force of law relating to any purpose within the provisions of this act for the collection, transportation and disposal of solid waste and the prevention, abatement or control of water, air and land pollution, which may be related thereto, and the deposit in or on land of any other material that may tend to cause pollution. Any such regulation or standard may be of general application throughout the State or may be limited as to times, places, circumstances, or conditions in order to make due allowance for variations therein. Without limitations, regulations or standards may relate to collection, transportation, disposal equipment, location, procedures, methods, systems or techniques or to any other matter relevant to the prevention, abatement or control of water, air and land pollution which may be advised through the control of collection, transportation and disposal of solid waste; and the deposit in or on land of any material that may tend to cause pollution.

Wastes other than solid wastes are subject to control under the authority of Minnesota Statutes, Section 115.01-115.09, and other applicable standards, regulations, orders or permits of the Agency relating to water pollution and disposal of sewage and industrial or other wastes.

CHAPTER TWO:

SW 51 Applicability. Definitions and General Conditions for Handling, Storage. Transportation and Disposal of Animal Wastes. Severability and Variances.

Applicability

These are regulations and standards the provisions of which govern the storage, transportation and disposal of animal wastes and the registration and issuing of permits for the construction and operation of animal waste disposal systems for the protection of the environment in keeping with Minnesota Statutes, Chapters 115 and 116 and Laws 1969, Chapters 847, 931 and 1046.

Definitions

For the purpose of these regulations:

(1) "Agency" Shall mean the Minnesota Pollution Control Agency, its agents or representatives.

(2) "Animal Manure" shall mean poultry, livestock or other animal excreta or mixture with feed, bedding or other materials.

(3) "Animal Wastes" shall mean animal manure which is stored, transported or disposed of as an unwanted waste material and which poses a potential pollution hazard to the land, air or waters of the State. This shall not include animal manure used as fertilizer.

(4) "Feedlot Operator" Shall mean an individual, a corporation, a group of individuals, a partnership, joint venture, owner or any other business entity having charge or control of one or more livestock feedlots, poultry lots or other animal lots.

(5) "Fertilizer" Shall mean (a) animal manure which is put on or in the soil to improve the quality or quantity of plant growth, or (b) animal manure which is used as a compost, soil conditioners, or specialized plant beds.

(6) "Floodway" Is as defined in Minnesota Statutes, Section 104.05, Subdivision 4.

(7) "Land Pollution" Shall mean the presence in or on the land of any solid waste in such quantities of such nature and duration, and under such conditions as would affect injuriously any waters of the State, create air contaminates or cause air pollution.

(8) "Livestock" Shall mean beef and dairy cattle, horses, swine and sheep.

(9) "Livestock Feedlot" Shall mean the confined feeding, breeding, raising or holding of livestock in enclosures specifically designed as confinement areas in which animal manure may accumulate. This shall not include areas normally used for pasture or crops.

(10) "Odor" As stated in Minnesota Administrative Rules and Regulations APC 9 (c). The odor of growing vegetation, domestic fertilizers, insecticides and other natural odors shall not be considered objectionable.

(11) "Other Animal Lot" Shall mean the confined feeding, breeding, boarding or holding of any animal, except livestock; raised for its pelt, consumption as food, pleasure or sport, including; but not limited to, rabbits, mink, dogs, ponies, buffalo and deer.

(12) "Pasture" Shall mean areas where grass or other growing plants are used as food for grazing. A pasture shall be deemed a livestock feedlot or poultry lot when the concentration of livestock or poultry is such that a vegetation cover is not maintained except in the immediate vicinity of temporary supplemental feeding or watering devices.

(13) "Poultry" Shall mean all domestically raised fowl, including but not limited to, chickens, turkeys, ducks, geese and game birds.

(14) "Poultry Lot" Shall mean (a) The place of confined feeding, hatching, raising, or holding of poultry in enclosures, yards or pens where animal manure may be accumulated; or (b) Range areas not normally used for pasture or crops, in which animal manure may accumulate and be carried directly or indirectly to waters of the State or constitute a potential pollution hazard.

(15) "Shoreland" Is as defined in Minnesota Statutes, Section 105.485, Subdivision 2.

(16) "Sinkhole" Shall mean a hole worn through bedrock into which surface water drains to an underground channel.

(17) "Solid Waste" Solid waste is garbage, refuse and other discarded solid materials, except animal waste used as fertilizer, including solid waste materials resulting from industrial, commercial and agricultural operations, and from community activities. Solid waste does not include earthen fill, boulders, rock and other materials normally handled in construction operations, solid or dissolved materials in domestic sewage or other significant pollutants in water resources, such as silt, dissolved materials in irrigation return flows, or other common water pollutants.

(18) "Storage Area" Shall mean an area associated with a livestock feedlot, poultry lot or other animal lot in which animal manure is placed for storage until it can be utilized as fertilizer or removed to a permanent disposal site. This shall not include animal manure packs or mounding within the feedlot area.

(19) "Potential Pollution Hazard" shall mean a condition which may in the reasonably foreseeable future cause pollution of the land, air or waters of the State.

General Conditions

All animal manure shall be stored, transported and disposed of in a manner consistent with the requirements of these regulations. The Agency is responsible for enforcement of these regulations in cooperation with local governing bodies which may adopt these regulations for use in local laws, ordinances or regulations.

Severability

If any provision of any regulation or the application thereof to any person or circumstances is held to be invalid, such invalidity shall not affect other provisions or application of any other part of such regulations or any other regulations which can be given effect without the invalid provision of application, and to this end the provisions of all regulations and the various applications thereof are declared to be severable.

Variances

Where upon written application of the responsible person or persons the Agency finds that by reason of exceptional circumstances strict conformity with any provisions of the regulation contained herein would cause undue hardship, would be unreasonable, impractical or not feasible under the circumstances, the Agency may permit a variance from these regulations upon such conditions and within such time limitations as it may prescribe for prevention, control or abatement of land, air or water pollution in harmony with the intent of the State and any applicable Federal laws.

SW 52 Storage, Transportation and Disposal of Animal Wastes

(1) The owner and operator of any livestock feedlot, poultry lot or other animal lot shall be responsible for the storage, transportation and disposal of all animal manure generated on the property in a manner consistent with the provisions herein.

(2) All animal manure shall be stored in such a manner as to prevent the creation of a potential pollution hazard to the land, air or waters of the State.

(a) All storage areas shall be designed so as to restrict seepage, percolation or other movement of animal manure to ground waters.

(b) All storage areas shall be surrounded by a dike, wall or curb of such dimensions or construction that the storage volume will contain all the animal manure generated and divert around and prevent the entrance and admixture of snow melt and surface runoff from outside areas.

(c) All storage areas shall be sloped so that draining liquids can be collected and discharged from the area at one or more controlled discharge points.

(d) If animal manure is stored as a slurry, storage tanks shall be designed to restrict objectionable odors. This shall not apply where animals or poultry are kept on slotted floors over a pit or where outdoor holding ponds or lagoons are utilized.

(e) All storage areas shall be located so as not to pose a potential pollution hazard to local wells or sources of potable water and shall be located at least 100 feet from such wells or water sources.

(f) All stored fertilizer shall be utilized and all stored animal wastes disposed of in a manner consistent with the provisions herein as soon as weather conditions and other factors permit. In no event shall fertilizer or animal wastes be stored for more than one year from the time of their generation unless animal manure packs or mounding is used as an operational technique.

(3) All fertilizer and animal wastes shall be transported in such a manner as to prevent the creation of a potential pollution hazard to the land, air or waters of the State.

(a) All vehicles used to transport animal wastes on county, State and interstate highways or through municipalities shall be covered and durable. This shall not apply to animal manure hauled to fields for use as fertilizer. Animal wastes in slurry form shall be transported in leak-proof vehicles or containers.

(b) All fertilizer and animal wastes shall be transported in compliance with the regulations of Federal, State and local governments and their regulatory agencies.

(4) All animal wastes shall be disposed of in such a manner as to prevent the creation of a potential pollution hazard to the land, air or waters of the State.

(a) Opening burning of animal waste is prohibited except as shall be allowed by the regulations of the Agency.

(b) All treatment works for the control of animal wastes shall be constructed, designed and operated in accordance with statutes, regulations or criteria as administered by the Agency's Division of Water Quality.

(c) Disposal of effluents from systems for disposal of animal wastes shall be conducted in conformance with applicable criteria, rules, regulations, or standards of the Agency relating to water pollution or disposal of sewage, industrial or other wastes.

(d) Land disposal of animal wastes shall be conducted in conformance with Minnesota Administrative Rules and Regulations SW 1-11

(e) Animal wastes or fertilizer containing dead animals or animals entrails shall be disposed of in conformance with Minnesota Administrative Rules and Regulations SW 1-11, or regulations of the Minnesota Livestock Sanitary Board whichever may be applicable.

SW 53 Registration, Permit Issuance, Denial and Revocation

It shall be unlawful for any person to establish, maintain or operate a livestock feedlot, poultry lot or other animal lot except as provided in these regulations.

(1) The Agency may, at its discretion, require registration of existing livestock feedlots, poultry lots and other animal lots. Conditions requiring registration and registration procedures for the abatement of pollution of land, air and waters of the State shall be determined by the Agency after public hearings have been held.

(2) A permit shall be required for all new livestock feedlots, poultry lots and other animal lots beginning after the effective date of these regulations.

(3) If the Agency determines that a livestock feedlot, poultry lot or other animal lot is, in fact, polluting or constitutes a potential pollution hazard to the land, air or waters of the State the feedlot operator shall submit an application for permit and upon plan approval obtain a permit from the Agency for the pollution control devices to be installed.

(4) Permits shall be issued at no charge to the feedlot operator. Each permit application shall include the following:

(a) A map or aerial photograph of the area showing all homes, buildings, lakes, ponds, watercourses, wetland, dry runs, rock out-croppings, roads and applicable details and shall indicate the general topography with contours and drainage patterns. Wells should be indicated, a north arrow drawn and location insert map included.

(b) A description of geological conditions, soil types and ground water elevations, including high water table; to a depth of ten feet below the lowest elevation of the site.

(c) A plan indicating operational procedures, the location and specifications of proposed animal waste treatment works, land used for the disposal of animal wastes, and the quantity and type of effluent to be discharged from the site.

(6) Plans and specifications shall be approved and a permit issued when the director of the Agency determines they are in accordance with the requirements as set forth in these regulations and other applicable statutes, regulations, rules or criteria of the Agency relating to disposal of sewage, industrial, or other wastes. Although a permit shall be granted the same shall become effective only if the location of the site or facility shall conform to all applicable Federal State and local laws, ordinances and regulations.

(7) Permits may be denied, conditioned, modified or revoked for violation of these regulations. When a permit is denied or revoked, the applicant or holder shall be notified in writing of the reasons therefor. A denial or revocation shall not become effective for at least 90 days after written notification to the applicant or holder. A denial or revocation shall be

without prejudice to the applicant's or holders right to an appearance before the Agency within 90 days, or for filing a further application after revisions are made to meet objections specified as reasons for denial or revocation. The applicant or holder shall have the right to an appeal pursuant to Minnesota Statutes, Chapter 15.

SW 54 Location Requirements for Livestock Feedlots, Poultry Lots and Other Animal Lots

(1) All livestock feedlots, poultry lots and other animal lots shall be located so as not to constitute a potential pollution hazard to the land, air or waters of the State, except where corrective and protective measures approved by the Agency are taken.

(2) New livestock feedlots, poultry lots and other animal lots are prohibited within the following areas:

(a) Within shoreland

(b) Within a floodway

(c) Within 1,000 feet of the boundary of a public park

(d) In sinkholes or areas draining into sinkholes

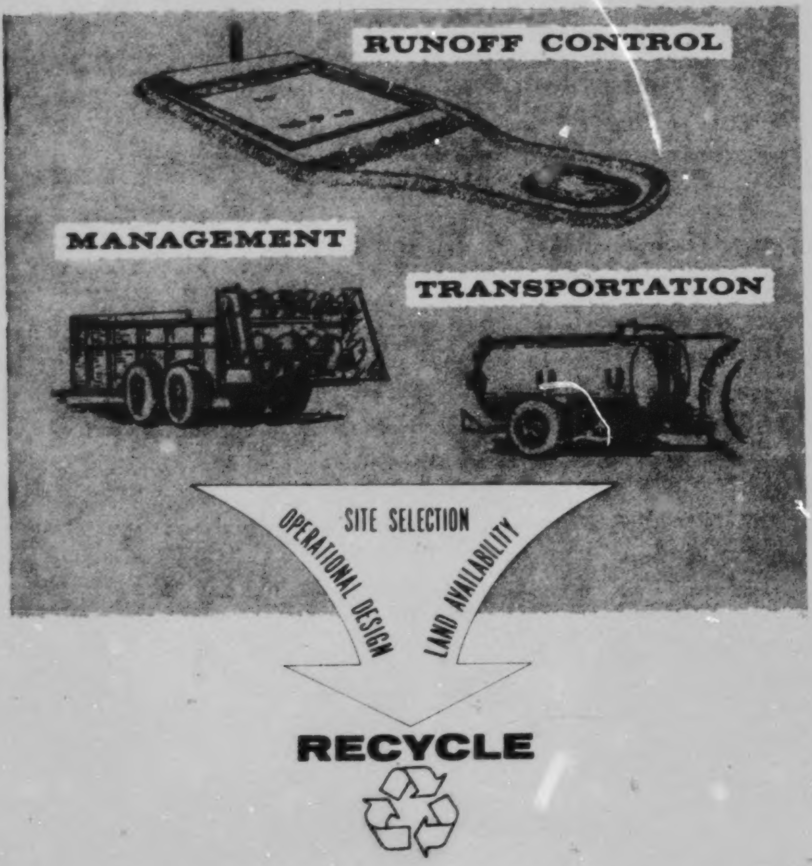
(e) Within one-half mile of the nearest point to a concentration of ten or more private residences at the time of construction.

SW 55 Nonconforming Feedlots

Modification of existing livestock feedlots, poultry lots and other animal lots to conform to the requirements of these regulations shall be accomplished. When the degree of necessary improvement is of such extent that immediate compliance cannot be accomplished, special consideration shall be given by the Agency. In such event, the owner of the nonconforming livestock feedlot, poultry lot or other animal lot shall, not later than six months after notification by certified mail that a permit will be required, submit to the Agency a report setting forth a program, plans and time schedule for compliance with these regulations. In any event, compliance must be achieved within such time as deemed reasonable by the Agency.

ANIMAL WASTES

MINNESOTA POLLUTION CONTROL AGENCY
DIVISION OF SOLID WASTE



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INTRODUCTION

The Preamble to the Regulations for the Control of Wastes from Livestock Feedlots, Poultry Lots and Other Animal Lots states in the first paragraph, "An adequate supply of healthy livestock, poultry and other animals is essential to the well being of Minnesota citizens and the nation. They provide our daily source of meat, milk, eggs and fiber. Their efficient, economic production must be the concern of all consumers if we are to have a continued abundance of high-quality, wholesome food and fiber at reasonable prices."

This same Preamble continues, "However, livestock, poultry and other animals produce wastes which may, when improperly stored, transported or disposed of, affect Minnesota's environment. Where such wastes could add to air, water or land pollution, they must be controlled."

These first two paragraphs recognize two very important facts, (1) agriculture is of utmost importance to the livelihood and economy of all people, and (2) management of agricultural operations must be accomplished in such a manner that the environment (air, land or water) is not adversely affected.

The main thrust of this manual will be to acquaint the reader with the present policies and concepts related to environmental control on new and existing feedlot operations.

This manual was prepared by the Solid Waste Division of the Minnesota Pollution Control Agency:

1935 West County Road B-2
Roseville, Minnesota 55113

January, 1974

THE PHILOSOPHY BEHIND THE REGULATIONS

When the nine-member Agricultural Wastes Advisory Committee was appointed in September, 1969, two of its primary charges were to provide advice on pollution abatement as it relates to farmers and to supply guidance in the writing of effective livestock waste control regulations which would least disrupt efficient food and fiber production.

Early in its deliberations, the advisory committee prepared a preamble which began, "An adequate supply of healthy livestock, poultry and other animals is essential to the well-being of Minnesota citizens and the nation. They provide our daily source of meat, milk, eggs and fiber. Their efficient, economic production must be the concern of all consumers if we are to have a continued abundance of high-quality, wholesome food and fiber at reasonable prices."

That early preamble survived the many drafts which the regulations themselves went through. It was adopted by the literally hundreds of agriculturally-oriented groups and individuals who reviewed, helped write or provided expert input into those regulations -- SCS and ASCS-ACP (now RECP) program administrators, and U of M and its Experiment Station and Ag Extension Service, Farm Bureau, Farmers Union, NFO, The Grange, Minnesota Livestock Feeders and Livestock Breeders Associations, poultry and turkey groups, the Minnesota Association of Commerce and Industry, and numerous others.

It was not challenged at any of the five area hearings, held in September and October, 1970, or at the final, sixth hearing at the State Capitol on January 12, 1971. It was accepted by Minnesota Pollution Control Agency members when the "Regulations for the Control of Wastes From Livestock Feedlots, Poultry Lots and Other Animal Lots" were adopted March 8, 1971.

It is still the guiding philosophy of PCA's agricultural wastes division.

Feedlot regulations are administered "to provide protection against pollution by domesticated animals"..."with full understanding that animal wastes are often byproducts beneficial to the economic production of agricultural crops". Regulations are so enforced as to "provide the greatest safe latitude in compliance, taking into consideration that agriculture has 20 to 30 years of experience in successful soil and water conservation."

A RESOURCE OUT OF PLACE

Wide spread interest in pollution is indicated by the extensive coverage by news media, attention from politicians and general public statements. There is a great deal of emotionalism in some of the concern which tends to overlook the continued conservation practices used by agricultural producers.

First, we need to have a workable and simple definition of pollution. Pollution is the presence in a body of water or soil or air of a substance in such a quantity that the quality of the body of soil water or air is degraded such that the water's usefulness is impaired or is rendered offensive to the senses of sight, taste or smell. The adverse effects of pollutants will depend on the nature of the next use of the water, soil or air. The effect may be a hazard to the health of man or livestock, reducing the production of food, or recreational losses. Another adverse effect of pollution may be the losses in aesthetic and cultural values.

Animal manures have been singled out by many people as being a large contributor to agricultural pollution. The mere presence of animal manures in a particular location does not denote pollution. Proper management of the animal residues can provide a very important resource to further production of crops and animals. Indiscrimate release of these animal residues to the environment may in fact be actual pollution of the environment.

It is important to understand the principle agents of pollution which may arise from the residues associated with production of animals. Organic substances, both biodegradable and relatively unbiodegradable, are the largest portion of animal manures. These arise mainly from the partially digested feed of the animals. Other agents present in animal waste are inorganic substances, volatile substances which can move into the air, infectious agents which may in fact infect man and/or animals.

The organic matter when it reaches a body of receiving water serves as a growth media for aerobic - microorganism growth which can rapidly use up the available dissolved oxygen in the water. Then the oxygen uptake of the bacteria exceeds the capability of the receiving waters to take up more oxygen from the air, the oxygen depletion disrupts the ecology of plant and animal life. Sport fish are very sensitive to oxygen depletion, because they demand a high level of dissolved oxygen in the water. Rough fish can often subsist in lower levels of dissolved oxygen in the water. If the oxygen depletion is complete, the body of water becomes anaerobic and all fish life disappear. This body of water then is supporting a different type of microorganisms called anaerobic bacteria and the result of the degradation of the organic wastes become volatile gases which are quite odorous. This is then a septic or stinking area of degradation of organic matter.

An alternative situation which may result from poor management of animal wastes is when the nutrients such as nitrogen, phosphorus and potassium exert more influence than the organic matter in the lake. A body of water may be able to assimilate the organic waste and break it down into smaller components. However, the addition of nutrients, both directly from the animal waste and from the microbial breakdown of the waste, enrich the receiving body of water. This enriched body of water will support much higher populations of plant life and the resulting decay of the plant life in its life cycle tends to fill up or age the lake. This is the process called eutrophication and is a natural process in all lakes. However, the speeding up of the eutrophication of lakes is quite a problem in Minnesota. Agricultural wastes are not the only source of nutrients but in certain locations runoff from farmland and from feedlots has been indicated as an important source of nutrients which aid in the aging of lakes.

Pollution materials from agricultural lands and from feedlots are not always recognizable by a visual inspection. Runoff water containing large amounts of solid material and color are normally detectable with the human eye. Runoff waters which contain relatively low amounts of solids but nutrients such as nitrogen and phosphorus in unacceptable quantities may appear clear. The only way to detect the presence of these nutrients is by chemical test. However, it may be reasonably assumed from research information that water which has been in contact with animal manures and feedlot surfaces will contain elevated levels of nutrients, suspended solids and in most cases some color. Therefore, reasonable people can easily understand that even good looking water running off heavily manured land and from feedlots is not pure water and is unacceptable to be discharged into lakes in Minnesota. Dilution with more water will tend to lower the concentrations of the nutrients but does not diminish the total amount of materials in the runoff.

Perhaps the most important situation to consider is that the animal manures, etc. contain nutrients useful for growing plant organic matter useful for conditioning the soil, and moisture which can be used by growing crops. Thus this material is a valuable resource and can be recycled through the soil and its very large capacity to breakdown organic matter. Growing crops can then reutilize the nutrients, organic matter and water value to produce new crops. However, improper management of animal manure can, and in some cases does, cause these nutrients to be utilized in areas where they will be considered harmful. This mismanagement is a factor which must be guarded against and in existing cases corrected. Agricultural producers of food and fiber have this important continuing management role in protecting the environment.

SUGGESTED VALUES FOR MANURE DEFECATION RATES PER 1,000 LB. LIVEWEIGHT IN CONFINEMENT ANIMAL PRODUCTION*

Items	Units	Dairy Cattle	Beef Cattle	Poultry Hens	Pigs	Sheep
Raw Manure (WM)	lb./day	88	60	59	50	37
	cu.ft./day	1.4	1.0	1.0	0.8	0.6
Total Solids (TS)	lb/day	9	6	17.4	7.2	8.4
	%WM	10	10	30	14.4	22.7
Volatile Solids (VS)	lb./day	7.2	4.8	12.9	5.9	6.9
	%TS	80	80	74	82	82
BOD	lb./day	1.7	1.5	4.4	2.1	0.7
	lb./day VS	0.233	0.252	0.338	0.363	0.101
BOD/COD	%	16	17	28	33	8
Nitrogen	%TS	4	9.8	11.5	5.6	4
P_2O_5	%TS	1.1	1.2	4.6	2.5	1.4
K	%TS	1.7	1.8	2.1	1.4	2.9

*From Farm Animal Waste Management, North Central Regional Publication #206, Special Report 67, May 1971

NUTRIENT CHARACTERISTICS OF ANIMAL MANURES*

Animal	Assumed Average Wt. (LB.)	Pounds/Animal/Year			Pounds/Animal/Day
		N	P_2O_5	K	BOD_5
Dairy	1,000	131.4	36.1	55.8	1.7
Beef	1,000	170.8	26.3	39.4	1.5
Poultry	5	1.81	1.46	0.67	0.022
Swine	100	14.7	6.[illegible]	3.7	0.21
Sheep	100	12.3	4.3	8.9	0.07

*Vaules calculated on basis of data cited reference.

REGULATIONS FOR THE CONTROL OF WASTES FROM LIVESTOCK FEEDLOTS, POULTRY LOTS, AND OTHER ANIMAL LOTS.

"An adequate supply of healthy livestock, poultry, and other animals is essential to the well being of Minnesota citizens and the nation. They provide our daily source of meat, milk, eggs, and fiber. Their efficient, economic production must be the concern of all consumers if we are to have a continued abundance of high-quality, wholesome food and fiber at reasonable prices.

"However, livestock, poultry, and other animals produce wastes which may, when improperly stored, transported or disposed of, affect Minnesota's environment. Where such wastes could add to air, water, or land pollution they must be controlled.

"The following regulations for the control of livestock, poultry, and other animal wastes are drafted to provide protection against pollution by domesticated animals. They are written with full understanding that animal wastes are often by-products beneficial to the economic production of agricultural crops.

"These regulations are written to provide the greatest safe latitude in compliance, taking into consideration that agriculture has 20 to 30 years of experience in successful soil and water conservation. Control measures, where deemed necessary, are to be individually designed and developed to provide the specific controls needed for the operation in question.

"These regulations comply with the specific policy and purpose of the State of Minnesota in regard to solid waste control as set forth in Laws 1969, Chapter 1046 (Codified as Minnesota Statutes, Section 116.07).

"Subd. 2. The Pollution Control Agency shall also adopt standards for the control of the collection, transportation, and disposal of solid waste for the prevention and abatement of water, air, and land pollution, recognizing that due to variable factors, no single standard of solid waste control is applicable to all areas of the State. In adopting standards, the Pollution Control Agency shall give due recognition to the fact that elements of control, which may be reasonable and proper in densely populated areas of the State, may be unreasonable and improper in sparsely populated or remote areas of the State, and it shall take into consideration in this connection such factors, including others which it may deem proper, as existing physical conditions, topography, soils and geology, climate, transportation, and land use. Such standards of solid waste control shall be premised on technical criteria and commonly accepted practices.

"Subd. 4. Pursuant and subject to the provision of Chapter 15, and the provisions hereof, the Pollution Control Agency may adopt, amend, and rescind regulations and standards having the force of law relating to any purpose within the provisions of this act for the collection, transportation, and disposal of solid waste, and the prevention, abatement, or control of water, air, and land pollution, which may be related thereto, and the deposit in or on land of any other material that may tend to cause pollution. Any such regulation or standard may be of general application throughout the State or may be limited as to times, places, circumstances, or conditions in order to make due allowance for variations therein. Without limitation's *regulations or standards* may relate to collection, transportation, disposal equipment, location, procedures, methods, systems, or techniques, or to any other matter relevant to the prevention, abatement, or control of water, air, and land pollution which may be advised through the control of collection, transportation, and disposal of solid waste; and the deposit in or on land of any material that may tend to cause pollution.

"Wastes other than solid waste are subject to control under the authority of Minnesota Statutes, Section 115.01-115.09, and other applicable standards, regulations, orders, or permits of the Agency relating to water pollution and disposal of sewage and industrial or other wastes."

"SW 51 APPLICABILITY, DEFINITIONS, AND GENERAL CONDITIONS FOR HANDLING, STORAGE, TRANSPORTATION, AND DISPOSAL OF ANIMAL WASTES. SEVERABILITY AND VARIANCES.

Applicability

"These are regulations and standards the provisions of which govern the storage, transportation, and disposal of animal wastes and the registrations and issuing of permits for the construction and operation of animal waste disposal systems for the protection of the environment in keeping with Minnesota Statutes, Chapters 115 and 116 and Laws 1969, Chapters 847, 931, and 1046.

THE FOLLOWING WORDS ARE SPECIFICALLY DEFINED IN THE REGULATIONS:

Definitions:	Interpretations
"'Agency' shall mean the Minnesota Pollution Control Agency, its agents, or representatives."	*The Section of Agricultural Wastes, Division of Solid Waste, has its headquarters at 1935 West County Road B2, Roseville, Minnesota. Regional offices are at Marshall, Rochester, Duluth, Fergus Falls, and Brainerd. These offices can answer many questions and provide needed forms.* *The MPCA Board has nine members appointed by the Governor. This board represents a cross section of Minnesota residents. One member must be a farmer. Any staff member visiting a feedlot will identify himself if requested to by the feedlot operator.*

Definitions	Interpretations
"'Animal manure' shall mean poultry, livestock, or other animal excreta or mixture with feed, breeding, or other materials." "'Animal wastes' shall mean animal manure which is stored, transported, or disposed of as an unwanted waste material and which poses a potential pollution hazard to the land, air, or waters of the State. This shall not include animal manure used as fertilizers."	*This definition differentiates between animal manure to be recycled and manure to be discharged in the outside environment. Most animal manure in Minnesota is used as fertilizer. To treat animal manure for stream or river discharge is costly.*
"'Feedlot operator' shall mean an individual, a corporation, a group of individuals, a partnership, a joint venture, owner, or any other business entity having charge or control of one or more livestock feedlots, poultry lots, or other animal lots."	
"'Fertilizer' shall mean (a) animal manure which is put on or in the soil to improve the quality or quantity of plant growth, or (b) animal manure which is used as a compost, soil conditioners, or specialized plant beds."	*This definition encourages use of animal manures as a crop resource. Such application must not contaminate ground water or severely depress crop growth. The crop utilizes the nutrients and the soil micro-organisms break down the organic matter. Thirty to 50 wet tons per acre is not excessive on heavily cropped soils. Manure dumped in piles in road ditches, wetlands, or along streams cannot be classified as fertilizer applications.*
"'Floodway' is defined in Minnesota Statutes, Section 104.02 Subdivision 4."	
From the Minnesota Statutes: "Subd. 4. 'Floodway' means the channel of the watercourse and those portions of the adjoining flood plains which are reasonably required to carry and discharge the regional flood."	

"Subd. 2. 'Regional Flood' means a flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic of what can be expected to occur on an average frequency in the magnitude of the 100 year recurrence interval."

"'Land Pollution' shall mean the presence in or on the land of any solid waste in such quantities of such nature and duration, and under such conditions as would affect injuriously any waters of the State, create air contaminates or cause air pollution.

"'Livestock' shall mean beef and dairy cattle, horses, swine, and sheep."

"'Livestock Feedlot' shall mean the confined feeding, breeding, raising, or holding of livestock in enclosures specifically designed as confinement areas in which animal manure may accumulate. This shall not include areas normally used for pasture or crops."

This includes sale barns, holding lots, meat packing plants, exhibition barns, and fairgrounds.

"'Odor' as stated in Minnesota Administrative Rules and Regulations APC 9 (c). The odor of growing vegetation, domestic fertilizer, insecticides, and other natural odors shall not be considered objectionable."

Fertilizer (animal manure) odor is not considered objectionable. However, odor may be regulated by local nuisance ordinances. Odors can be minimized by proper management in many cases. Odors from land spreading may be managed by quickly incorporating manure into the soil. Spread downwind from residences. Odors from spreading can be minimized by applying the manure early in the day. Rising air currents in the morning tend to dissipate the odors.

"'Other Animal Lot' shall mean the confined feeding, breeding, boarding, or holding of any animal; except livestock; raised for its pelt, consumption as food, pleasure, or sport; including, but not limited to, rabbits, mink, dogs, ponies, buffalo, and deer.

"'Pasture' shall mean areas where grass or other growing plants are used as food for grazing. A pasture shall be deemed a livestock feedlot or poultry lot when the concentration of livestock or poultry is such that a vegetation cover is not maintained except in the immediate vicinity of temporary supplemental feeding or watering devices.

"'Poultry' shall mean all domestically raised fowl including but not limited to chickens, turkeys, ducks, geese, and game birds."

"'Poultry lot" shall mean (a) The place of confined feeding, hatching, raising, or holding of poultry in enclosures, yards, or pens where animal manure may be accumulated; or (b) Range areas not normally used for pasture or crops, in which animal manure may accumulate and be carried directly or indirectly to waters of the State or constitute a potential pollution hazard."

"'Shoreland' is defined in Minnesota Statutes, Section 105. 485 Subdivision 2."

From the Minnesota Statutes:

"Subd. 2. 'Shoreland' means land located within the following distances from the ordinary high water elevation of public water, (1) Land

Animals of all sizes generate waste problems. Research installations, veterinary offices, dog pounds, and pet shops are included in the above.

Pastures with direct access to streams and lakes are undesirable because animals can drop feces and urine directly into the water.

within 1,000 feet from the normal high watermark of a lake, pond, or flowage, and (2) Land within 300 feet of a river or stream or the landward side of the flood plain delineated by ordinance on such a river or stream, whichever is greater."

"'Sinkhole' shall mean a hole worn through bedrock into which surface water drains to an underground channel."

"'Solid Waste' is garbage, refuse, and other discarded solid materials, except animal waste used as fertilizer, including solid waste materials resulting from industrial commercial and agricultural operations, and from community activities. Solid Waste does not include earthen fill, boulders, rock, and other materials normally handled in construction operations, solid, or dissolved materials in domestic sewage of other significant pollutants in water resources, such as silt, dissolved materials in irrigation return flows, or other common water pollutants."

"'Storage Area' shall mean an area associated with a livestock feedlot, poultry lot, or other animal lot in which animal manure is placed for storage until it can be utilized as fertilizer or removed to a permanent disposal site. This shall not include animal manure packs or mounding within the feedlot area."

Manure tanks inside and outside buildings, detention ponds, sedimentation terraces, stacked manure piles, and manure catchment basins are storage areas.

"'Potential Pollution Hazard' shall mean a condition which may in the reasonably foreseeable future cause pollution of the land, air, or waters of the State."

This is subject to interrpretation by authorities. Examples of potential pollution hazards include manure dumped near drainage ditches, feedlot tile inlets, manure stached by a lake, or a

"GENERAL CONDITIONS"

"All animal manure shall be stored, transported, and disposed of in a manner consistent with the requirements of these regulations. The Agency is responsible for enforcement of these regulations in cooperation with local governing bodies which may adopt these regulations for use in local laws, ordinances, or regulations.

"SEVERABILITY

"If any provision of any regulation or the application thereof to any person or circumstances is held to be invalid, such invalidity shall not affect other provisions or application of any other part of such regulations or any other regulations which can be given effect without the invalid provision of application, and to this end the provisions of all regulations and the various applications thereof are declared to be severable."

"VARIANCES

"Where upon written application of the responsible person or persons the Agency finds that by reason of exceptional circumstances strict conformity with any provisions of the regulation contained herein would cause undue hardship, would be unreasonable, impractical or not feasible under the circumstances, the Agency may permit a variance from these regulations upon conditions and within such time limitations as it may

stream flowing through a feedlot. An uncased well in a feedlot could contaminate a large underground water reservoir. So could a feedlot draining into a sink hole.

"Some local zoning ordinances and building codes include these regulations. Check local laws before planning construction.

Variances provide some flexibility but most circumstances in Minnesota don't warrant variances. Don't plan a variance for a new feedlot facility. Use a variance as a last resort. Some new buildings on existing layouts will need variances because of setback rules.

prescribe for prevention, control, or abatement of land, air, or water pollution in harmony with the intent of the State and any applicable Federal laws.

"SW 52 STORAGE, TRANSPORTATION, AND DISPOSAL OF ANIMAL WASTE"

"1. The owner and operator of any livestock feedlot, poultry lot, or other animal lot shall be resonsible for the storage, transportation, and disposal of all animal manure generated on the property in a manner consistent with the provisions herein.

"2. All animal manure shall be stored in such a manner as to prevent the creation of a potential pollution hazard to the land, air, or waters of the State.

"a. All storage areas shall be designed so as to restrict seepage, percolation, or other movement of animal manure to ground waters.

Suitable materials to restrict seepage are reinforced concrete, asphalt, steel, compacted clay, soil cement, and, in some instances, plastic or rubber liners. Ground water contamination can ruin well water for many years over a large area.

"b. All storage areas shall be surrounded by a dike, wall, or curb of such dimensions or construction that the storage volume will contain all the animal manure generated and divert around and prevent the entrance and admixture of snow melt and surface runoff from the outside areas."

Terraces to divert clean water from feedlots, holding tanks, and detention ponds prevent mixing of clean water with manure.

"c. All storage areas shall be sloped so that draining liquids can be collected and discharged from the area at one or more controlled discharge points."

Discharge to lakes. streams, and water is not allowed. Because of color, nutrient content, and oxygen demand, animal wastes cannot meet State water effluent standards without extensive treatment.

"d. If animal manure is stored as a slurry, storage tanks shall be designed to restrict objectionable odors. This shall not apply where animals or poultry are kept on slatted floors over a pit or where outdoor holding ponds or lagoons are utilized."

Covers are needed on outside slurry tanks but not if these are under buildings. Continuously operating ventilation systems are needed in closed buildings with slatted floors or gutters. Accumulated gases from manure breakdown can be dangerous. These gases may also affect animal growth. Never enter manure tanks without an air breathing apparatus and a safety rope held by a person capable of pulling you out.

"e. All storage areas shall be located so as not to pose a potential pollution hazard to local wells or sources of potable water and shall be located at least 100 feet from such wells or water sources."

It is often difficult to meet these criteria. Yet this is important. Seepage, though slow, can travel through many soils. Wells penetrate many soil layers and may allow contamination of local and more distant supplies.

"f. All stored fertilizer shall be utilized and all stored animal waste disposed of in a manner consistent with the provisions herein as soon as weather conditions and other factors permit. In no event shall fertilizer or animal wastes be stored for more than one year from the time of their generation unless animal manure packs or mounding is used as an operational technique."

Winter spreading of animal manures as fertilizer is permitted. However, some manure runoff from frozen ground gets into lakes and streams. Good management can minimize runoff. Spread manure on flat land away from lakes and streams. Spread on terraced areas and areas with the least snow cover. Cover tile inlets in the fall. Leave these covered until the snow melts.

"3. All fertilizer and animal wastes shall be transported in such a manner as to prevent the creation of a potential pollution hazard to the land, air, or waters of the State."

"a. All vehicles used to transport animal wastes on county, State, and interstate highways or through municipalities shall be covered and durable. This shall not apply to animal manure hauled to

Good management can lessen manure lost on roads. Load within the capacity of the manure spreader and use end gates.

fields for use as fertilizer. Animal wastes in slurry form shall be transported in leakproof vehicles or containers."

"b. All fertilizer and animal wastes shall be transported in compliance with the regulations of Federal, State, and local governments and their regulatory agencies."

"4. All animal wastes shall be disposed of in such a manner as to prevent the creation of a potential pollution hazard to the land, air, or waters of the State."

This portion applies to animal wastes that are treated as refuse and not reused for fertilizer.

"a. Open burning of animal waste is prohibited except as shall be allowed by the regulations of the Agency."

"b. All treatment works for the control of animal waste shall be constructed, designed, and operated in accordance with statutes, regulations, or criteria as administered by the Agency's Division of Water Quality."

This does not apply to holding facilities for fertilizer, but only for unwanted waste.

"c. Disposal of effluents from systems for disposal of animal wastes shall be conducted in conformance with applicable criteria, rules, regulations, or standards of the Agency related to water pollution or disposal of sewage, industrial, or other wastes."

"d. Land disposal of animal wastes shall be conducted in conformance with Minnesota Administrative Rules and Regulations SW 1-11."

"e. Animal wastes or fertilizer containing dead animals or animal's entrails shall be disposed of in confomrance with Minnesota Administrative Rules and Regulations SW 1-11, or regulations of the Minnesota Livestock Sanitary Board whichever may be applicable."

"SW 53 REGISTRATION, PERMIT ISSUANCE, DENIAL, AND REVOCATION

"It shall be unlawful for any person to establish, maintain, or operate a livestock feedlot, poultry lot, or other animal lot except as provided in these regulations."

"1. The Agency may, at its discretion, require registration of existing livestock feedlots, poultry lots, and other animal lots. Conditions requiring registration and registration procedures for the abatement of pollution of land, air, and waters of the State shall be determined by the Agency after public hearings have been held."

"2. A permit shall be required for all new livestock feedlots, poultry lots, and other animal lots beginning after the effective date of these regulations."

Dead animals must not be put into holding ponds, tanks, or manure pits. Dispose of dead animals through proper burial, incineration, or rendering. Under no circumstances should dead animals be put into abandoned wells or into sinkholes. These have direct access to underground water supplies.

Registration may be required soon. Registration inventories all feedlots to determine potential problems. The Federal Government is encouraging registration.

Permits are required for lots which after April 16, 1971:

(a) Began operation
(b) Expanded existing operation by increasing the number of animal units
(c) Modified existing operation or constructed new facilities (but did not increase animal units)
(d) Changed ownership (but did not increase animal units)

The location requirements of SW-54 (2) do not apply to permits issued under (c), and (d) above.

a. He must plan for and evaluate management of runoff and manure.

b. Operating under a permit will discourage frivolous complaints. A permit shows an attempt to keep things right.

c. A problem situation or site will be found before money is invested in equipment and buildings. Manure management should have first priority in planning expansion and new facilities. Often, manure management is a costly afterthought.

"3. If the Agency determines that a livestock feedlot, poultry lot, or other animal lot is, in fact, polluting or constitutes a potential pollution hazard to the land, air, or waters of the State, the feedlot operator shall submit an application for permit and upon plan approval obtain a permit from the Agency for the pollution control devices to be installed."

Presently, the Agency is investigating complaints about feedlots. General inspections of all feedlots would consume more manpower than is available. When the Agency decides there is a potential pollution hazard, a certified letter of violation is sent to the operator. The operator has six months to reply with plans to abate the hazard. The MPCA will evaluate the plans and recommend changes or issue the permit. The specific plan is not spelled out by the MPCA. The operator must originate the plan.

"4. Permits shall be issued at no charge to the feedlot operator. Each permit application shall include the following:

"a. A map or aerial photograph of the area showing all homes, buildings, lakes, ponds, watercourses, wetland, dry runs, rock outcroppings, roads, and applicable details and shall indicate the general topography with contours and drainage patterns. Wells should be indicated a north arrow drawn, and location insert map included.

"b. A description of geological conditions, soil types and ground water elevations including high water table to a depth of ten feet below the lowest elevation of the site.

"c. A plan indicating operational procedures, the location and specifications of proposed animal waste treatment works, land used for the disposal of animal wastes, and the quantity and type of effluent to be discharged from the site."

"6. Plans and specifications shall be approved and a permit issued when the director of the Agency determines they are in accordance with the requirements as set forth in these regulations and other applicable statutes, regulations, rules, or criteria of the Agency relating to disposal of sewage, industrial, or other wastes. Although a permit shall become effective only if the location of the site or facility shall conform to all applicable Federal, State, and local laws, ordinances, and regulations.

The permit application can be prepared by the operator. Maps and air photos are available through the Soil Conservation Service (SCS), Agricultural Stabilization and Conservation Service (ASCS), or U.S. Geological Survey. Geological conditions and soils information are contained in soil surveys available in SCS offices. A simple operation may require management changes of the runoff and animal manure. Consulvation with County Extension Agents, other operators, and Extension pulbications may be sufficient to develop a plan. The SCS personnel may be of assistance in more complicated cases. A number of agricultural engineers are qualified to deal with these problems on a consultation basis. Extension agricultural engineers can provide layout planning and guidance, but not construction supervision.

The operator must check all local laws and regulations.

"7. Permits may be denied, conditioned, modified, or revoked, for violation of these regulations. When a permit is denied or revoked, the applicant or holder shall be notified in writing of the reasons therefor. A denial or revocation shall not become effective for at least 90 days after written notification to the applicant or holder. A denial or revocation shall be without prejudice to the applicant's or holder's right to an appearance before the Agency within 90 days, or for filing a further application after revisions are made to meet objections specified as reasons for denial or revocation. The applicant or holder shall have the right to an appeal pursuant to Minnesota Statutes, Chapter 15."

This section describes permit denial, revocation, and conditioning. Once a permit is issued, the operator must operate within the regulations and within permit specifications. The permit holder does have a right to the hearings described.

SW 54 LOCATION REQUIREMENTS FOR LIVESTOCK FEEDLOTS, POULTRY LOTS, AND OTHER ANIMAL LOTS.

"1. All livestock feedlots, poultry lots, and other animal lots shall be located so as not to constitute a potential pollution hazard to the land, air, or waters of the State, except where corrective and protective measures approved by the Agency are taken."

Existing feedlots may continue in hazardous places, but they are expected to install devices to control the problem and obtain a permit. When an operation is sold, the new operator must obtain a permit and it is recommended that the availability of a permit be part of the conditions of the sale.

Where control measures are needed, (such as tanks, runoff control structures, and diversions), the control measures should be individually designed to provide the specific control needed. Relocation of existing feedlots may be needed where protection costs are too great. Management savings in other operations will undoubtedly be of benefit. An old site with poor waste management probably has many other difficulties too. These other difficulties may be corrected in a new situation.

"2. *New livestock feedlots,* poultry lots, and other animal lots are prohibited within the following areas:

"a. Within shoreland;
"b. Within a floodway;
"c. Within 1,000 feet of the boundary of a public park;
"d. In sinkholes or areas draining into sinkholes;
"e. Within one-half mile of the nearest point to a concentration of 10 or more private residences at the time of construction."

"SW 55 NONCONFORMING FEEDLOTS

"Modifications of existing livestock feedlots, poultry lots, and other animal lots to conform to the requirements of these regulations shall be accomplished. When the degree of necessary improvement is of such extent that immediate compliance cannot be accomplished, special consideration shall be given by the Agency. In such event, the owner of the nonconforming livestock feedlot, poultry lot, or other animal lot shall, not later than six months after notification by certified mail that a permit will be required, submit to the Agency a report setting forth a program, plans, and time schedule for compliance with these regulations. In any event, compliance must be achieved within such time as deemed reasonable by the Agency."

These few prohibitions minimize many feedlot problems. Land close to water or easily flooded is not ideal for animal production. Waste can reach bodies of water through runoff or heavy flooding. Sinkholes connect to underground water supplies and cause contamination. A new operation should be far from recreational areas. A location remote from nonfarm neighbors will diminish complaints. People must understand the consequences of moving near an agricultural enterprise that has animals. Agricultural zoning may be needed in some areas to protect large investments in feedlots. Zoning laws are local and require local implementation.

All lots will eventually conform to the feedlot regulations. At present, complaints will decide which ones must conform first. Voluntary compliance is easier than forced compliance because the changes may be made made at opportune times. Notable forced compliance probably will not meet the operator's convenience. Forward planning, construction, and good managmement will enhance the environment. The operator will reap satisfaction for a job well done.

WHAT IS A POTENTIAL POLLUTION HAZARD

A complete definition of a potential pollution hazard is not to be found. The Minnesota Pollution Control Agency Regulations define a potential pollution hazard as a condition which may, in the reasonable foreseeable future, cause pollution of the land, air or waters of the state.

In addition, the Minnesota Solid Waste Regulation SW 54 (1) states:

> *All livestock feedlots, poultry lots and other animal lots shall be located so as not to constitute a potential pollution hazard to the land, air or waters of the state, except where corrective and protective measures approved by the Agency are taken.*

Many factors enter into whether or not a potential pollution hazard exists at a feedlot. Some of the general criteria for a potential pollution hazard with regard to feedlots are:

1. Feedlot borders on a lake
2. Feedlot borders on or has flowing water running through it
3. Feedlot runoff reaches tile inlets
4. Feedlot is in or drains to a sinkhole
5. Outside runoff enters feedlot
6. Degree of slope of feedlot is enough to cause accellerated runoff
7. Management procedures
    (a) Improper storage of manure
    (b) Manure storage facilities beyond design capabilities or improperly used
8. Number of animals

(1) Feedlot borders on lake: Runoff may enter the lake after coming into contact with feedlot wastes, carrying nutrients from the manure into the lake and causing the lake to become eutrophic at a more rapid rate. This may be corrected by diverting the feedlot drainage so that it doesn't reach the lake.

(2) Feedlot borders on or has flowing water passing through it: This situation is much the same as in (1) above, except

that the stream carries the nutrients which may cause the stream to become oxygen deficient or cause eutrophication in the receiving waters.

(3) Feedlot runoff reaches tile inlets: Once the runoff enters the tile it flows to wherever the tile discharges with little change in character, even if the tile outlet is miles away. To provent this, the drainage must be diverted away from the tile inlet.

(4) Feedlot is in or drains to a sinkhole: This may cause contamination of the ground water, which may affect the wells for miles. Drainage must be diverted away from the sinkhole.

(5) Outside runoff enters feedlot: If the feedlot is constructed so that runoff from outside the feedlot drains through it, a higher probability of waste being carried away by runoff exists. A clean water diversion to prevent outside water from entering the feedlot may be constructed to correct this situation.

(6) Slope of the feedlot: The greater the slope of a feedlot the higher the velocity of runoff water and the greater the capacity of the water to carry wastes away. To correct this the runoff may be stored and a sedimentation area put in.

(7) Management procedures: Any pollution abatement system depends upon proper management to be effective. The operator should know the operation procedures and the design capabilities of the system.

(8) Number of animals: The number of animals is not in itself a potential pollution hazard, it is instead, one measure of how serious the problem is. A feedlot with 10 cows can only lose 1/10 the pollutants that a 100 cow feedlot can, but if the 10 cow herd has no corrective measures taken while the 100 cow herd does, it can certainly present a potential pollution hazard.

The above criteria taken separately or in combination may cause a potential pollution hazard if corrective measures are not taken. It must be emphasized that each case must be decided on an individual basis and there isn't any easy measuring stick of a potential pollution hazard.

THE MINNESOTA POLLUTION CONTROL AGENCY PERMIT FOR CONSTRUCTION AND OPERATION OF A LIVESTOCK FEEDLOT, POULTRY LOT OR OTHER ANIMAL LOT

Who needs it

A permit is required for all livestock feedlots, poultry lots, and other animal lots, which after April 16, 1971:

a) Began operation

b) Expanded an existing operation by increasing the number of animal units[1]

c) Modified an existing operation, or constructed new facilities (but did not increase animal units)

d) Changed ownership (but did not increase animal units)

If (c) or (d) apply, SW-54(2) which is Location Requirements for Livestock Feedlots, Poultry Lots and Other Animal Lots does not apply, although a permit is required.

In the case of a modification[2] or expansion of a permitted lot, an addendum[3] to the permit is required.

Where to go

Forms, consisting of an application and a site evaluation are available from:

USDA-SCS
County Extension Agent
County Planning and Zoning
Designated County Feedlot Pollution Control Officer[4]
Minnesota Pollution Control Agency

•Footnotes:

Definitions

1."Animal Unit" -A unit of measure used to compare differences in the production of animal wastes which has as a standard the amount of waste produces on a regular basis by a slaughter steer or heifer. For purposes of these regulations, the following equivalents apply:

	Animal Units
(1) Slaughter steer or heifer	1
(1) Mature dairy cow	1.4
(1) Swine over 55 pounds	.4
(1) Sheep	.1
(1) Turkey	.018
(1) Chicken	.01
(1) Duck	.2

2. "Modified" - Change in the operation of an animal feedlot which would affect the generation or disposal of animal waste.

3. "Addendum" - Document specifying additions to or change in conditions of a Livestock Feedlot, Poultry Lot or Other Animal Lot permit due to the modification of said Livestock Feedlot, Poultry Lot or Other Animal Lot.

4. "Designated County Feedlot Pollution Control Officer" is a county employee or other person approved by the County Board, who should be knowledgeable in agriculture and who is designated by resolution of the County Board to receive and process feedlot, poultry lot and other animal lot permit applications.

What to do

Because the application and preliminary site evaluation are the only basis, in most cases, for evaluating an operation, thoroughly completing the forms is necessary.

Assistance from the USDA-SCS or one of the other offices where permit applications are available can eliminate incomplete applications.

A map or aerial photograph (available to the operator from ASCS) of the area showing all homes, wells, buildings, lakes, ponds, watercourses, wetland, dry runs, rock out-croppings, roads, and contours and drainage patterns should be included with the application.

Also, included with the application should be a plan indicating operational procedures, the location and specifications of animal waste collections, storage and/or treatment facilities, land used for the disposal of animal wastes, and the quantity and type of waste to be removed from the site.

What happens then

After the application and site evaluation have been properly completed, it should be sent to the County Feedlot Pollution Control Officer in those counties which have an Agency approved feedlot program. In all other counties, the application should be sent directly to the MPCA. Permits or notice of denial should be received by the operator in two to three weeks. In cases where this time frame would present hardship to the operator, verbal approval can be given in one to two days after receipt of a properly completed application. If the permit or notice of denial is not received within three weeks, the county Feedlot Officer or MPCA should be contacted.

The exception to the rule

In certain exceptional circumstances, strict conformity to the regulations may be unreasonable, impractical, or cause undue hardship. Under these conditions, a variance from the regulations may be applied for by the operator.

All variances are acted upon by the MPCA Board at their regular monthly meeting on the third Tuesday of each month. Variance requests received by the first of a month will be presented to the Board in that month.

SAMPLE

PERMIT APPLICATION

FOR CONSTRUCTION AND OPERATION OF A LIVESTOCK FEEDLOT, POULTRY LOT OR OTHER ANIMAL LOT

TO: Minnesota Pollution Control Agency
Division of Solid Waste
Section of Agricultural Waste
1935 West County Road B2
Roseville, Minnesota 55113

Date________________

The undersigned applicant, in accordance with the Minnesota Pollution Control Agency's Regulations for the Control of Wastes from Livestock Feedlots, Poultry Lots, and Other Animal Lots, hereby applies to the Agency to construct and operate *a livestock feedlot, poultry lot or other animal lot.**

The animal facility site, consisting of ____ acres, is located in ________________ (quarter section), of section ________, in ________________ Township, of ________________ County.

Township No.____________, Range No.____________, Total Number of acres available for disposal of manure ________________.

This application pertains to (check one): ______ *new livestock feedlot, poultry lot or other animal lot beginning after April, 1971;* _____ *improving an existing livestock feedlot, poultry lot or other animal lot;* _____ *an expansion of an existing livestock feedlot, poultry lot or other animal lot.*

Estimated completion schedule *spring, summer, fall, winter, 19*__.

The required maps, description and plans, as required in SW 53(4)(a), (b) and (c), *are enclosed or will be sent separately* and are identified thereon with the preparer and date. (A.S.C.S. Aerial Maps are preferred.)

I certify that the construction and operation of the above described *livestock feedlot, poultry lot or other animal lot* will be in accordance with the plans, specifications, reports and related communications approved by the Minnesota Pollution Control Agency and on file in its office; and in accordance with conditions which have been or may be imposed in the permit or any applicable regulations or standards of the Agency.

Signature of Applicant________________________

____
(Address of Applicant) (Phone No.)

*Strike out any items in italics which do not apply.

SITE EVALUATION
FOR CONSTRUCTION AND OPERATION
OF A
LIVESTOCK FEEDLOT, POULTRY LOT OR OTHER ANIMAL LOT

I. SITE IDENTIFICATION

OPERATOR ____________________
(Party or parties responsible for operation) *print or type name.*

GOVERNMENTAL JURISDICTION *Name of government unit having jurisdiction*
(Township, village, city, county or other)

ZONING CLASSIFICATION *Indicate local zoning class if any*

PRESENT LAND USAGE ____________________

ACTIONS NECESSARY TO USE SITE *Indicate local permits or variances needed*
(special use permits)

II. SITE CHARACTERISTICS

GENERAL TOPOGRAPHY ____________________
(flat, gently rolling, hilly, etc.)

SOIL TYPE *give general types, depths of each type of soil*
(attach S.C.S. soils map if available)

GEOLOGIC CONDITIONS *check with U.S.G.S.*
(shallow bedrock, thick glacial till, etc.)

WATER TABLE DEPTH ____________________
(check with S.C.S.)

PROXIMITY TO PRIVATE DWELLINGS *dwellings meant are homes and cabins not out-buildings and barns.*
(number and type of dwellings within one-half mile, ie: farm or residential)

PROXIMITY TO LAKES, PONDS, WATERCOURSES, WETLANDS OR DRYRUNS *If complete confinement with no runoff, indicate such, otherwise give distance to surface waters and flowage pattern*
(indicate where drainage from animal lot area flows, what distance, and what prevents runoff from polluting state waters)

LOCATION OF WELLS *also indicate distance and direction from the feedlot area and slope.*
(give type, ie: Home, barn, livestock watering) and distance from a manure storage facility)

III. TYPE OF OPERATION *Indicate what type of animals or poultry*
(livestock feedlot, poultry lot or other

are to be housed.
animal lot)

SIZE OF LOT *Actual physical dimensions of the confinement*
(actual area where poultry or animals are confined)

area - buildings and yards

AREA CONTRIBUTING CLEAN WATER WHICH WOULD COME IN CONTACT
WITH MANURE *It is important to minimize this as much as possible.*
(area of watershed above lot which drains through lot)

NUMBER AND TYPE OF POULTRY OR ANIMALS *This will be the number of*

animals your permit is issued for.

TYPE OF CONFINEMENT *Indicate type and amount of confinement*
(buildings, yards, pens, etc.)

IV. MANURE HANDLING TECHNIQUES *How is the manure handled between*
(automatic barn cleaner, slatted

the point of generation and ultimate disposal
floor, hand loading, manure pack, etc.)

FREQUENCY OF REMOVAL *How often is the facility cleaned*

DESCRIPTION OF MANURE STORAGE AREAS *Describe the area where*

manure is stored and indicate what precautions have been taken

in order to meet regulations

MANURE TRANSPORTATION TECHNIQUES ______________________
(type of equipment used and

____
route traveled if off own property)

ULTIMATE DISPOSAL OF MANURE ______________________
if land spreading, number of acres

____
available and name of owner if not on own property)

V. IS THE SITE WITHIN: (Answer yes or no)

SHORELAND ____________ (1000 feet from a lake, pond, or flowage
300 feet from a stream or river)

A FLOODWAY____________(Area needed to carry the regional flood)

1000 FEET OF A PUBLIC PARK___________

SINKHOLES OR AREAS DRAINING INTO SINKHOLES__________

VI. DISPOSAL OF DEAD ANIMALS (Check as many as apply)

BURIAL ON OWN LAND____________________________________
(If burial used, you should indicate that livestock sanitary

board regulations are understood.

PCA APPROVED INCINERATOR__________________

RENDERING WORKS________________

OTHER (EXPLAIN)____

ADDITIONAL PERTINENT INFORMATION *any additional information* (attach any extra information *which is pertinent to this application* such as maps, etc.)

COMMENTS AND RECOMMENDATIONS OF ASSISTING OFFICIAL *any recommendations or comments which the county, SCS, Extension Agent, consulting engineer, etc. would care to make on the proposed operation.*

SIGNATURE OF ASSISTING OFFICIAL_______________________________

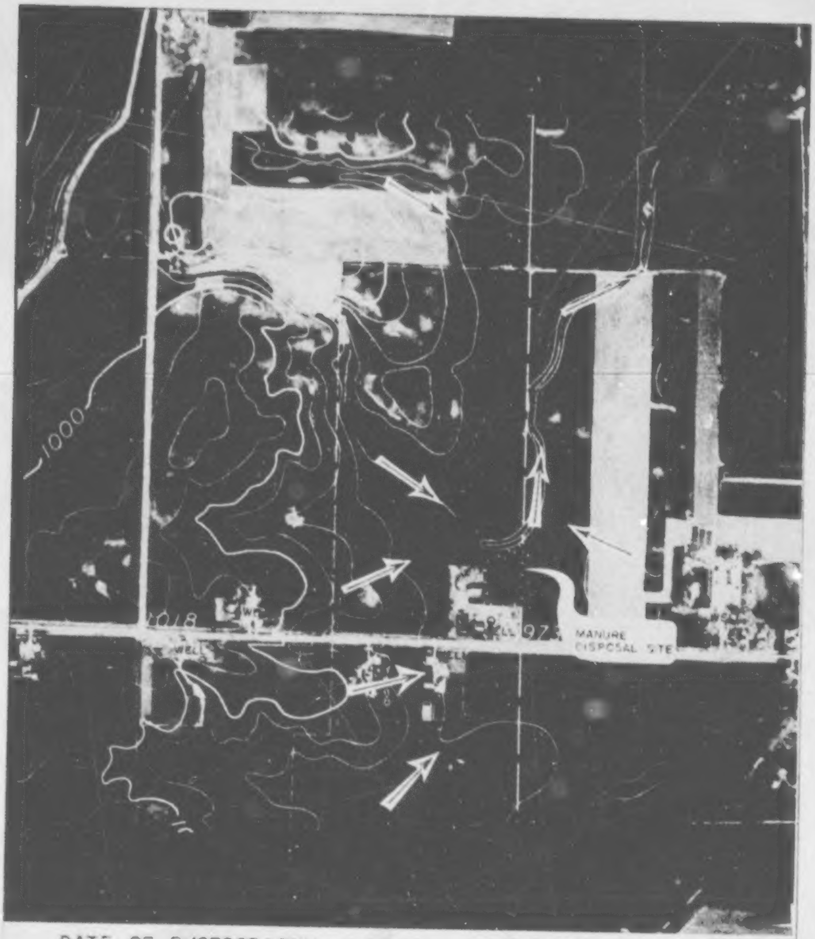
TITLE____

ADDRESS____

____

____

PHONE NO.______________________________________



DATE OF PHOTOGRAPHY : 11-29-73 APPROXIMATE SCALE 1" = 660'

⟶ DENOTES SURFACE DRAINAGE

DIVISION OF SOLID WASTE
MINNESOTA POLLUTION CONTROL AGENCY

STATE OF MINNESOTA

SAMPLE

PERMIT FOR CONSTRUCTION AND OPERATION OF A LIVESTOCK FEEDLOT, POULTRY LOT OR OTHER ANIMAL LOT

Has Been Issued To

____
Name of Corporation, Company, or Person

Permit No. __________

SUBJECT TO CONTINUED CONFORMANCE WITH THE MINNESOTA POLLUTION CONTROL AGENCY'S REGULATIONS FOR THE CONTROL OF WASTES FROM LIVESTOCK FEEDLOTS, POULTRY LOTS OR OTHER ANIMAL LOTS.

By ______________________________
Chief, Section of Agricultural Wastes

By ______________________________
Director, Division of Solid Waste

Date ______________________________

EXAMPLE PERMIT

PERMIT FOR THE CONSTRUCTION AND OPERATION OF A LIVESTOCK FEEDLOT, POULTRY LOT OR OTHER ANIMAL LOT

Pursuant to authorization by the Minnesota Pollution Control Agency, and in accordance with the provisions of Minnesota Statutes, Chapters 115 and 116, as amended, and Agency Regulations SW 51-55; plans are approved and a permit is hereby granted to Mr. John H. Doe for the construction and operation of a livestock feedlot in the southeast one-quarter of section 1, May Township, Wisconsin County, Minnesota.

The livestock feedlot will consist of a 1 acre outdoor feedlot designed to house 200 head of feeder cattle. The lot will be completely surrounded by a clean water diversion system. All runoff from within the feedlot will be directed toward an earthen collection basin. The basin is designed to hold six months accumulation of waste. All solids and liquids will be spread on 160 acres of agriculturally zoned land as fertilizer when they can be incorporated into the soil.

The facilities and operating procedures are further described in a permit application and site evaluation form dated November 10, 1972, signed by Mr. John H. Doe and in plans prepared by USDA and SCS.

GENERAL CONDITIONS

1. This permit shall not release the permittee from any liability or obligation imposed by Minnesota Statutes or local ordinances and shall remain in force subject to all conditions now or hereafter imposed by law. The permit shall be permissive only and shall not be construed as estopping or limiting any legal claim of the state against the permittee, its agents, contractors or assigns for damage to state property or for any violation of the terms or conditions of this permit.

2. No assignment of this permit shall be effective until it is executed in writing and signed by the parties thereto and thereafter filed with the Agency.

3. No major alterations or additions to the feedlot system will be made without the written consent of the Agency.

4. The use of the livestock feedlot shall be in accord with and limited to the operation described in the site evaluation form, permit application and associated material on file with the Agency.

5. This permit is subject, without public hearing, to modification or revocation and may be suspended at any time for failure to comply with the terms stated herein or the provisions of any other applicable regulations or standards of the Agency or its predecessors and is issued with the understanding that it does not estop subsequent establishment of further requirements for disposal or operation at any time or insertion of appropriate additional clauses herein at the discretion of the Agency if it is considered necessary in order to prevent or reduce possible pollution of the environment because of changed or unforeseen circumstances.

6. The permittee or assigns shall defend, indemnify and hold harmless the State of Minnesota, its officers, agents or employees, officially or personally responsible against any and all actions, claims or demands, whatsoever, which may arise from or on account of the issuance of this permit for the construction, maintenance or operation of any facility hereunder.

7. The livestock feedlot shall be operated at all times in accordance with any applicable regulations or standards of the Minnesota Pollution Control Agency now or hereafter adopted.

Director
Division of Solid Waste

Chief
Section of Agricultural Wastes

Permit No. SW-A 00

Dated November 30, 1972

FACILITIES BEING USED FOR FEEDLOT POLLUTION CONTROL

In Minnesota there are two concepts of Feedlot Pollution Control being used more that any other. Deagrams and descriptions of these concepts are included on the following pages. There are, of course, variations of these concepts being used, and other methods are just coming into being. Most of these alternatives, however, are similar in theory to the ones which will be described.

It must be noted that these systems are, for the most part, collection systems, which require proper management and predetermined areas for spreading of the wastes as fertilizer or for final disposal. Most of these collection systems are designed to hold the quantity of wastes which will be generated over a six month period. The reason for this design criteria is sotthat the wastes can be spread on land as fertilizer when they can be immediately incorporated into the soil, thereby increasing the fertilizer quality and decreasing the amount of nutrient runoff.

If these collection systems are not managed properly and are allowed to overflow or leak the ensuing potential pollution hazard will be as detrimental or more so to the invironment as natural runoff becuase of the high concentration of nutrients in the material.

The primary systems to be discussed in this manual are the earthen collection pit and buildings with a concrete collection pit underneath . Illustrations of these concepts are on the following pages.

Earthen Collection Basin

These systems are used primarily to control runoff from existing outdoor sites. Initially, the area where the runoff problem exists is surveyed and the natural contours are determined. The best site for a collection basin is then determined, preferrably where gravity flow will cause the runoff to enter it. In some areas where lack of space or some other natural factors limit the location of the collection pit to an area removed from the actual feedlot, the runoff is sometimes directed to a central point and pumped to a collection basin which is located a short distance away.

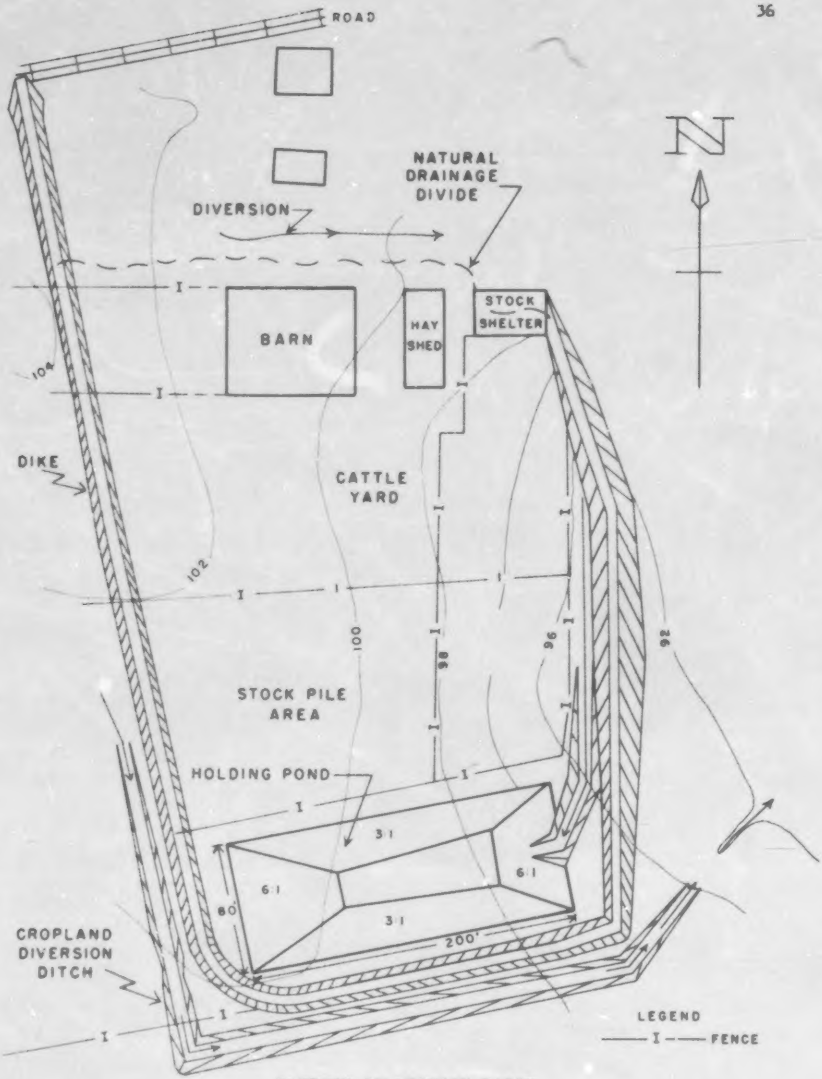
The collection pits are located in areas where the soils are impervious to moisture seeping through them. There are areas in the state where the natural soils are unacceptable for collection pits. In these areas a sealant of some type must be used to make the pit bottoms and sides impervious to seepage.

Materials of this nature include plastic and rubber liner, soil from another area haveng high sealant properties, and bentonite-type materials.

The entire feedlot area will be sloped so that all runoff enters the collection basin. A clean water diversion system will be constructed so that uncontaminated waters from other areas will not enter the feedlot area. The diversion system usually consists of a dike or berm constructed around the perimeter of the feedlot and, in some cases, a water channel to direct the clean water around the feedlot.

In addition to controlling the runoff from the feedlot area, provisions are made for storage of the solid wastes.

An example plan of this type of system is included on the following page.



EARTHEN COLLECTION BASIN

Building With Concrete Collection Pit:

These systems are becoming more popular as herd sizes increase and complete confinement of animals becomes more prevalent. Besides controlling runoff, they enable the operator to manage his system with a minimum of manure handling.

The systems consist of a concrete collection pit which will be situated directly under the confinement building. The walls and floor of these pits are reinforced to withstand the pressures exerted on them by both the contents of the pit and the external water and soil pressures.

There are variations in the way these pits are constructed in relation to the building. In some, the walls of the pit actually serve as the foundation of the building. In others, the pits are smaller in area than the actual building and the walls do not have to double as a support structure.

The area and depth of these pits will be determined by the number and type of animals to be housed and the length of storage time desired. Again, storage space for six month's accumulation of waste is the minimum suggested size.

The method in which the waste material enters the pit also varies. In some operations, primarily those involving meat producing animals, the major portion of the building is constructed with slatted floors. Openings between the slats allow the material to pass through the floor and be collected in the storage pit.

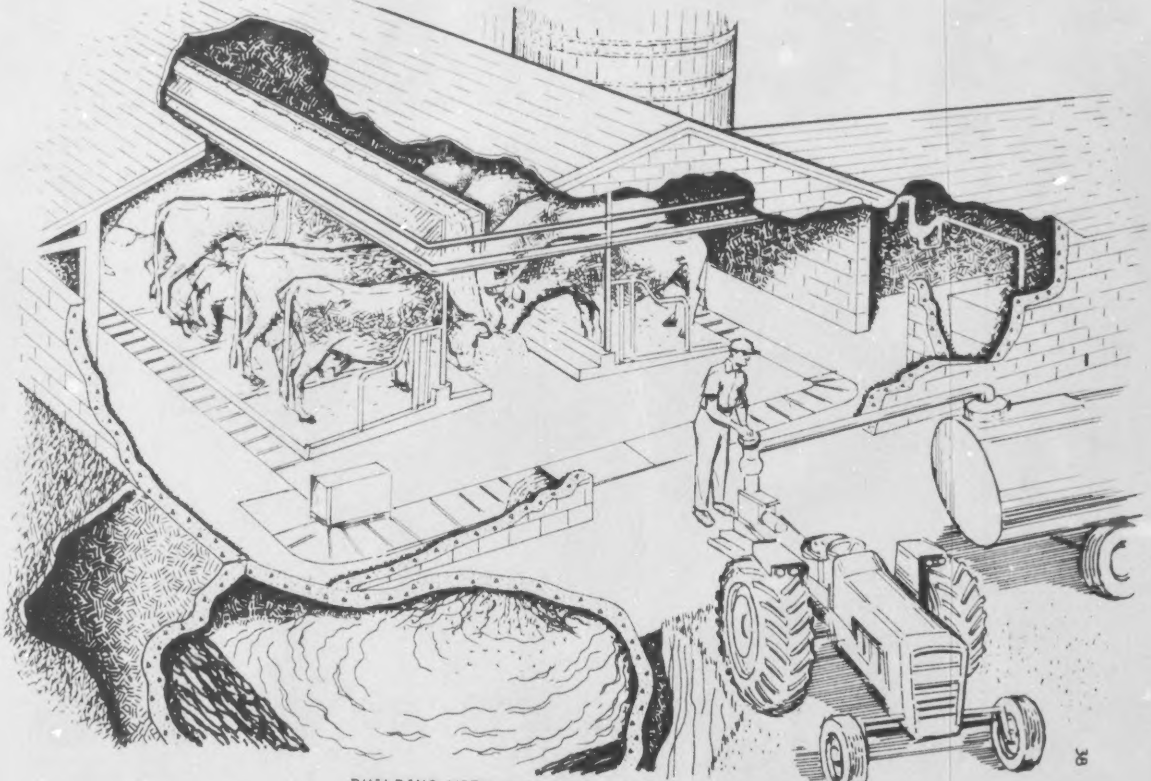
In other operations, primarily dairy, only gutter sized areas are slatted, or a standard barn cleaner conveys the waste materials from the gutter to a central point where it is deposited into the pit.

The material from the pit is pumped out periodically and spread as fertilizer.

Ventilation is of primary importance in these operations. Bacterial action in the pit produces gases which may be either poisonous, (i.e. hydrogen sulfide), or explosive, (i.e. methane) if great enough quantities are allowed to remain within the building. Plans must be made for these gases to escape from the facility.

The following page illustrates one of these type systems.

A system which is similar in concept can be designed for existing buildings. The concrete pit is located adjacent to the building rather than under it and the waste material is mechanically conveyed to the pit. These outdoor pits must, according to regulations, be covered to keep any odor to a minimum.



38

BUILDING WITH CONCRETE COLLECTION PIT

THE ROLE OF THE COUNTY
IN THE FEEDLOT PERMIT PROGRAM

In January of 1974, regulations were adopted for the processing of feedlot permits by the counties. These regulations give the county government a role in assisting the farmer to meet Minnesota Pollution Control Agency REGULATIONS FOR THE CONTROL OF WASTES FROM LIVESTOCK FEEDLOTS, POULTRY LOTS AND OTHER ANIMAL LOTS.

The county has three choices as to how it wishes to assist the farmers in processing permits.

I

The county can assist the farmers in filling out permit applications. In this method, the county makes certain the permit application is completely filled out, and indicates compliance with local laws and regulations. The county then forwards this permit application along with any comments and recommendations to the Minnesota Pollution Control Agency. The MPCA then processes the permit application and issues the permit to the farmer with a copy of the permit going to the county. In a situation where a variance is needed, the county could make recommendations on the suitability of the variance.

II

The county can help the farmer fill out the permit application and then write up the conditions and description of the operation in the permit forms, and forward them to the MPCA for review. Following review and signing by the MPCA, the permit will be returned to the county for co-signing and issuance to the operator.

III

The county may choose not to participate, in which case the farmer is personally responsible for obtaining the needed permit from the MPCA.

Where the county decides not to participate in the feedlot program, the farmer will still be required to obtain an animal facility permit from the MPCA, but will not have the benefit of a local official able to give assistance and advice.

COMPLAINT HANDLING PROCEDURES

If a complaint is received by the Minnesota Pollution Control Agency about any feedlot, the following procedures are followed:

Agency personnel make an on-site inspection of the feedlot and if at all possible, discuss the operation with the owner and/or operator. In many cases, the complaint is unfounded or some relatively easy abatement procedures may solve the problem. Others, however, will require technical assistance to correct the problem. The Agency personnel will indicate what governmental assistance is available and what other operators have done; he will not propose any specific plans or programs for the operator to follow.

Regulations require that, if a potential pollution hazard is found to exist on any feedlot operation, the owner of the feedlot is to be notified of this fact by certified mail. The owner must, within six months of notification, respond to the Minnesota Pollution Control Agency with his plans for abatement facilities to be constructed and a timetable for the construction. The construction does not have to be completed within the six month period, but will be expected within a reasonable time, all factors considered. Agency personnel will be available for assistance at any time.

If the owner or operator is not available during the time of the on-site inspection, and a potential pollution hazard is found to exist, the owner will be sent a letter informing him that the inspection was made, what the findings were, and that an opportunity to discuss the situation is to be afforded to him before official notification is made. This letter is sent so that the best working relationship can be attained.

Should the owner choose not to reply to the Minnesota Pollution Control Agency within the six month period, one more reminder letter is sent to him. If no response is received to this final letter, the Agency staff will submit the matter the the Agency Board with a recommendation that it be turned over to the Attorney General for whatever legal resource is necessary.

The Agency Board is also notified at one of its regular meetings of the original notification of a potential pollution hazard. The owner will be notified of this meeting and, if he feels the determination of a potential pollution hazard was wrongfully made, he may state his reasons for his objection to the Board for their consideration. The validity of these reasons will determine the Board's course of action.

TAX BENEFITS

Both the State of Minnesota and the Federal Government have passed various tax statutes designed to provide some manner of beneficial tax treatment for those taxpayers that have installed pollution control facilities. The following discussion will set out those tax benefits available to the Minnesota Taxpayer and in particular the Minnesota farmer; however, said discussion is meant only for informative purposes and not as a legal analysis of a taxpayer's right under applicable law. Furthermore, there will be no attempt to explain how the statutes apply and to what extent. Any further questions that one might have should consequently be directed to a qualified tax consultant.

FEDERAL

Section 169 of the Internal Revenue Code is the only federal law which provides a possible tax break for the farmer installing pollution control facilities. In particular, said statute gives the taxpayer the option to elect a 60-month amortization period rather than the ordinary depreciation deduction for "certified pollution control facilities."

MINNESOTA

Income Tax Credits

The following two Minnesota Statutes provide for an income tax credit where a taxpayer installs and operates equipment or devices for pollution control.

MSA 290.06, Subd. 9 authorizes a 5% credit for the cost of equipment installed to abate pollution. The credit is limited to $50,000 maximum, but does provide for a carryback and/or carryover.

MSA 290.06, Subd. 9(a) applies explicitly to feedlot pollution control equipment and allows a 10% credit as opposed to a 5% with no limit on the amount of the credit except that there are no carryback or carryover provisions.

A taxpayer cannot claim both a 5% and 10% credit for the same equipment but must choose between the two provisions. This is not to say, however, that equipment would necessarily qualify for both credits.

To apply for the above income tax credits, the taxpayer must fill out a schedule PC, a form which is to be attached when filing income tax returns. Unfortunately, the directions in the revised schedule PC assert that an applicant must have a permit from the Minnesota Pollution Control Agency, hereafter known as the Agency, for the installation and operation of pollution control facilities before said party is eligible for a credit under either MSA 290.06, Subd.9 or Subd.9(a). This assertion is incorrect in that one need not necessarily have a permit, but rather evidence of authorization from the Agency however, a permit may, in part, be evidence of Agency authorization.

The normal evidence to be submitted with form PC is a "Letter of Certification" obtained by writing to the Solid Waste Division of the Agency. Include in the letter request all the information requested in Minnesota Pollution Control Agency form 613.

Property Tax Exemptions

MSA 272.02 (15) provides that real and personal property utilized primarily for pollution control will be exempt from property taxation. Equipment and devices to be exempt must be installed pursuant to an Agency permit or order, but real property under this provision need not be utilized pursuant to an Agency permit or order to qualify for the exemption.

The local property assessor should be made aware of the exemption so that the proper assessment is made.

REQUIREMENTS FOR TAX CREDIT ELIGIBILITY

The Feedlot Pollution Control Equipment Credit provides for an income tax credit of 10% of the cost or other basis of equipment and devices that are installed and operated within the State by a feedlot operator to prevent control or abate pollution of air, land or water in connection with the operation of a livestock feedlot, poultry lot or other animal lot. Evidence of approval by the Minnesota Pollution Control Agency must be secured in order to claim this credit.

This form is designed to supply the information necessary to make an eligibility determination. An applicant must show that:

(1) The operation in question does qualify as a livestock feedlot, poultry lot or other animal lot.

(2) A potential pollution hazard existed prior to installation of equipment or devices.

(3) The equipment or devices installed did prevent, control or abate pollution of air, land or water.

(4) Equipment or devices were purchased or installed after January 1st of the taxable year.

Eligible equipment and devices include: dikes, berms, diversion structures and other earthworks; waste holding lagoons, slatted floors and pits, slurry handling equipment such as pumps and liquid manure spreaders, soil injection equipment and other equipment and devices approved by the Minnesota Pollution Control Agency.

Soil Conservation Service Technical Assistance for Animal Waste Pollution Control Measures

The Soil Conservation Service (SCS) provides technical assistance through soil and water conservation districts, to landowners who wish to control animal waste pollution on their farm.

Upon request of landowners or operators who are ~~soil~~ and water conservation district cooperators, the SCS will provide the following phases of technical assistance for pollution control practices:

1. On site investigation, analysis and consultation with the copperator for a solution to an animal waste pollution control problem.
2. Recommendations and general layout for a complete pollution control system.
3. Site surveys, investigations and design and detail plans for structural measures to be installed for pollution control.
4. Layout and inspection during construction.

Individuals interested in SCS assistance for animal waste pollution control problems should contact their county SCS office.

THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AGRICULTURAL PERMIT PROGRAM[1]

The Clean Water Act which was passed in October, 1972 by the United States Congress, identified the confined feeding of livestock as one of many point sources of pollution. As a result, certain livestock producers are required to make application for a National Pollutant Discharge Elimination System (NPDES) Permit. The NPDES Permit is different from a MPCA feedlot permit and the two should not be confused. If you need a NPDES permit, you would probably need a MPCA feedlot permit also.

Who must apply

Livestock producers must make application for an NPDES discharge permit if they have a discharge or a potential discharge of manure or runoff and have in a single location for more than 30 days, not necessarily consecutive, during the 12 months, 1,000 or more beef cattle, 2,500 or more hogs over 55 pounds, 700 mature dairy cows, 55,000 or more turkeys, 10,000 or more sheep, 30,000 or more layers or broilers with a liquid manure handling system, 100,000 or more layers or broilers with a continuous overflow watering system or 5,000 or more ducks. If a producer has several types of livestock at one location he might also need to make application. This can be determined by the use of animal equivalents based on beef cattle. For example, a mature dairy cow is equal to 1.4 beefs, a hog is equal to 0.4 beefs, a sheep is equal to 0.1 beefs. These animal units can then be combined as shown in this example:

600 beef cattle	× 1.0 =	600	animal units
200 dairy cows	× 1.4 =	280	animal units
500 hogs	× 0.4 =	200	animal units
200 sheep	× 0.1 =	20	animal units
		1,100	animal units

If these 1,100 animal units were located at one farm and there is a potential discharge, then an application for an NPDES permit should be made.

In addition, if the EPA or the State Pollution Control Agency identifies the livestock operation as a significant contributor of pollutants[2] an application for an NPDES permit should be made.

*Footnotes:

1. The NPDES permit is in addition to the MPCA feedlot permit. The larger operators will be required to obtain both permits and the smaller operators need only obtain a MPCA feedlot permit.

2. A farmer who has an MPCA feedlot permit, less than 1,000 animal units, and complies with MPCA regulations, will not be considered a significant contributor of pollution.

What is a Discharge

The most common type of discharge is the runoff from an open lot which results from a heavy rainfall. If this runoff can reach an open ditch, stream or lake, it is then a discharge and the feedlot operator must obtain an NPDES permit. Another type of discharge can result from mismanagement which allows the manure in a liquid manure tank to overflow and reach a surface body of water.

The Minnesota Pollution Control Agency will be assuming the responsibilities for the Administration of the NPDES Permit Program in the near future and will probably have assumed the responsibilities by the time you read this. The MPCA Section of Agricultural Waste will be handling the short form B and questions should be referred to them at 1935 West County Road B2, Roseville, Minnesota 55113.

In order to obtain the NPDES permit, a runoff control system and manure handling technique must be developed which will result in no discharge of manure to any open ditch, stream, pond or other body of water, except what might result due to extreme climatic conditions. These climatic conditions would be so stipulated by the EPA that the probability of discharge would be so small that the impact on water quality would be minimal. The proposed effluent guideline states that the runoff control facilities must be constructed to store the 10 year 24 hour rainfall event.

Facilities for manure and runoff storage need to be in operation by 1977, and, according to the proposed effluent guideline, by 1983 facilities should be upgraded to store the runoff from a 25 year, 24 hour rainfall event.

Those livestock production facilities which cannot meet these requirements will be issued a schedule of implementation which can give them until 1977 to complete the construction of the facilities needed to insure no discharge.

Why Obtain a Discharge Permit

The farmer with an NPDES discharge permit is the only farmer who can legally discharge point source wastewater. Even though the only discharge allowed of an NPDES permit holder would be that resulting from an extreme climatic event, the livestock producer who has a discharge or potential discharge would be given a permit with a schedule of implementation which would eliminate this unauthorized discharge. If a livestock producer has not made application for an NPDES discharge permit, his discharge cannot be authorized. An unauthorized discharge is illegal and he can be prosecuted for violations of the Federal Water Pollution Control Act.

The Producer is also given financial protection if he applies for an NPDES permit. If his facilities are constructed to meet the promulgated performance standard for new facilities, he will not be required to meet any more stringent requirements for 10 years.

The goal of the entire NPDES permit program is to restore water quality. The agricultural permit program is designed to work with the small group of livestock producers who pose a large threat to the environment.

The vast majority of well-managed feedlots will not be required to make additional investments. Under this approach, facilities which need pollution controls will be assisted and those that do not have a potential discharge will not be bothered.

If the farmer is unsure of a potential discharge, we recommend that applications for a NPDES permit be made and the pollution control agency make the decision.

MINNESOTA POLLUTION CONTROL AGENCY DISTRICT OFFICES

The Minnesota Pollution Control Agency, during the summer of 1972, established five district offices throughout Minnesota. The staff of these offices are available to the general public for any questions or problems which may arise regarding pollution control. These offices were established to facilitate better and closer contact between the Agency and the people and local governments in areas of the state.

The addresses and phone numbers of these offices are as follows:

Brainerd Representative
MPCA
503 Washington Street
Brainerd, Minnesota 56401
#218-829-1907

Fergus Falls Representative
MPCA
Park Region Center
119 South Vine
Fergus Falls, Minnesota 56537
#218-736-2235

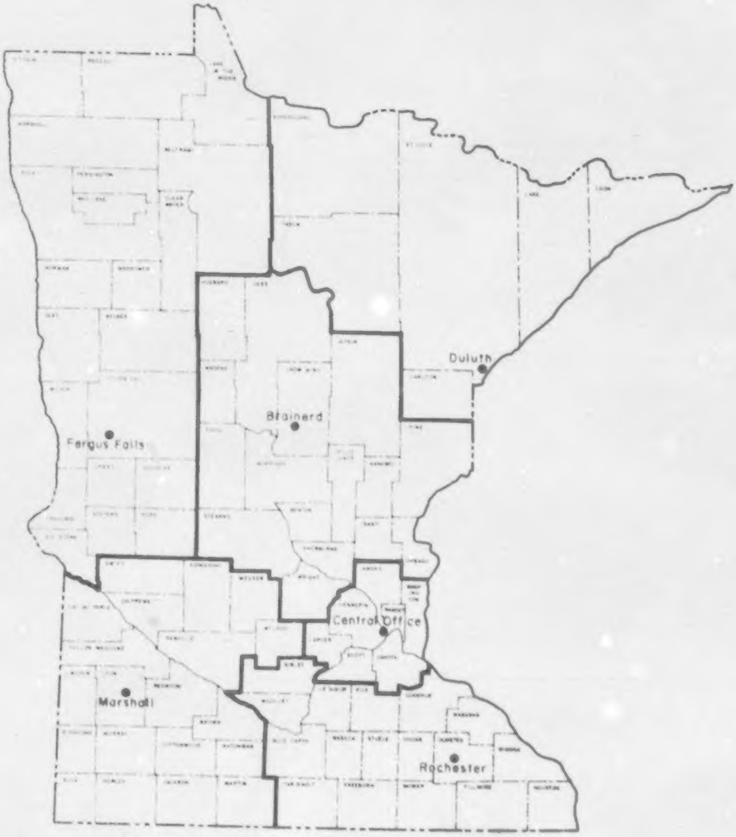
Marshall Representative
MPCA
Cline Pharmacy Building
P.O. Box 286
Marhsall, Minnesota 56258
#507-537-7146

Rochester Representative
MPCA
Suite 45, Kings Row Building
Rochester, Minnesota 55901
#507-288-1279

Duluth Representative
MPCA
1015 Torrey Building
Duluth, Minnesota 55802
#218-722-6678 and 6679

Central Office
MPCA
Solid Waste Division
Agricultural Waste Section
1935 West County Road B2
Roseville, Minnesota 55113
#612-636-5740

The following page outlines the boundaries of these districts.


Duluth
Brainerd
Fergus Falls
Central Office
Marshall
Rochester

Senator **McClure**. What is your estimate of the personnel that might be involved and the time involved to complete the inventory of the type you recommend.

Mr. **Breimhurst**. We feel that it would take 20 man-years to complete the inventory in the State of Minnesota. We feel the approach that could be used would be to use students working in the summertime, working under the direction of the agency, probably students in agricultural engineering or some facet of that profession.

Senator **McClure**. You think 20 man-years would do it?

Mr. **Breimhurst**. We feel it would do it in Minnesota.

Senator **McClure**. EPA's lawyers have not considered effluent limitations to include "Best Management Practices." Assuming that EPA does interpret the law as allowing such practices to be considered effluent limitations, how difficult would it be to draw up such practices and how much time would it take?

Mr. **Breimhurst**. That is a difficult question for me to answer, Mr. Chairman. I believe they could be drawn up, however, with the assistance of the Department of Agriculture's conservation service and the appropriate people in that field. I think a lot of that information is now known. I don't believe it would be that difficult to draw up a general set of guidelines.

Senator **McClure**. Do you think you have enough information on hand to do that?

Mr. **Breimhurst**. For the most part, I think we do.

Senator **McClure**. The difficulty would be only where the applications should occur rather than to acquire information as to what should be in the basic guidelines?

Mr. **Breimhurst**. That is correct, sir.

Senator **McClure**. Just one other question and I will see if Senator Stafford would like to ask some questions.

Dealing with the size of the units of operation you made a number between those above or below the 1,000 animal units. Do you have inventory of the range of sizes of these some 90,000 estimated units?

Mr. **Breimhurst**. Mr. Chairman, they run all the way from the one animal units up to thousand animal units or greater. In Minnesota there is not a size cutoff.

Senator **McClure**. There is no rational point at which you could distinguish on the basis of size?

Mr. **Breimhurst**. There probably is one. I guess I can't answer that. It depends on the location. We have known some feedlots that were a problem with 20 or 40 units where we have known a feedlot of 500 not to be a problem.

Senator **McClure**. You would rather not get in the numbers game, you would rather combine that with other factors?

Mr. **Breimhurst**. I think we would rather combine it with other factors.

Senator **McClure**. Senator Stafford.

Senator **Stafford**. Thank you. I am sorry that other commitments on other committees kept me from being here at the start this morning. I guess, gentlemen, since you come from Minnesota my question would be, to start with, you have been largely, I guess, addressing the feedlot operations in your State rather than the dairy industry, but you have both in Minnesota.

Mr. **Breimhurst**. We have both in Minnesota, yes, sir.

Senator STAFFORD. Do you have some ideas as to how large your dairy operations are in terms of cattle per farm?

Mr. BREIMHURST. The average size is about 40 animal units, and maybe Mr. Huntrods could expand on that.

Senator NELSON [presiding]. May I ask a question at that point?

Senator STAFFORD. Certainly.

Senator NELSON. You did not intend to affirm Senator Stafford's statement that you have just been addressing yourself to feedlots and not dairy stations?

Mr. BREIMHURST. No, sir. We did include some comments on the smaller dairy operation also. However, we understood the primary purpose of this hearing was to discuss the feedlot statement, but we did include a statement on the resolution adopted by our agency board on small industries.

Senator NELSON. No, it is not the purpose to discuss just feedlots if we are talking about feedlots in terms of beef. It is to discuss the whole question of concentrated feeding operations whether they are feedlots of beef cattle or dairy farms or turkey operations or chicken operations or hog operations, or whatever they are. It is the concentrated feeding operation in general that is the purpose of these hearings.

Mr. BREIMHURST. The numbers are not just limited to only the dairy operation. We have indicated the total number and then we have broken it down to the dairy operations.

Senator STAFFORD. As far as this Senator is concerned, I did not have a chance to hear the statement either read or to read it in advance and I understand the purpose of these hearings to be exactly as you have stated them. Mr. Chairman.

The discussion I heard on coming in had to do with feedlots and that is why I thought I had better get over to the dairy farm industry.

If I read the first part of your statement correctly, on page 1, I think you said, "We do not feel it is necessary or realistic to require that every farmer tending animals must obtain a discharge permit."

The testimony yesterday indicated that would involve processing one and a half million permits to start with, if something like that occurred, and I take it you agreed that would be an undesirable burden on EPA and on the farming community to attempt to do that.

Mr. BREIMHURST. Yes, sir, we do.

Senator STAFFORD. Could I also assume, then, that any dairy farm that had, say, 40 milk cows should not be included in the EPA permit system—in your judgment?

Mr. BREIMHURST. In our judgment, if you get down to the 40-animal unit, we feel that is quite small. We feel we can manage that with our State program and we do not have to go that low with the Federal program.

Senator STAFFORD. The decisions in this area would better be left to the States rather than the Federal Government; is that what you are saying?

Mr. BREIMHURST. Yes, sir, that is what we are saying.

Senator STAFFORD. That would probably apply to a dairy farm where the milk cows did not run over 100, also, wouldn't it?

Mr. BREIMHURST. I believe it would go to that size. It is hard to give a specific cutoff. I don't know if you were in the room or not at the time, but we indicated we know of some situations where a small lot may be a problem whereas a large lot may not be a problem. We feel you have to look at the specifics of the situation.

Senator STAFFORD. And this would involve the geography, the proximity of water, and so on, to the operation, would it not?

Mr. BREIMHURST. Yes, sir.

Senator STAFFORD. In most small dairy farms with less than 100 milk cows where the cows are pastured, except in the winter, both in the evening and during the day, the chances of a runoff problem here are pretty slight, are they not?

Mr. BREIMHURST. We believe they are. However, in some instances we may have a problem, but again I feel that type of situation can be rectified using best management practices and would not necessarily require a runoff structure.

Senator STAFFORD. It would be pretty hard to provide runoff facilities for a 300-acre pasture in which 56 cows were wandering through the night and again through the day, wouldn't it?

Mr. BREIMHURST. That would be a pasturing operation and we would not consider that a feeding operation.

Senator STAFFORD. If that is so, it would be difficult on a farm of a couple of hundred tillable acres to have to go into the problem on a national basis of worrying about runoff there if there were no ponds that fed into a larger stream or no stream that fed into a larger stream running through the tillable lands; is that not so?

Mr. BREIMHURST. Yes, sir. We don't believe the feedlot program should address that type of problem. I mentioned during some earlier questioning that we feel some of those problems could best be handled by the nonpoint source approach and again that will get to management practices rather than the structural approach.

Senator STAFFORD. If EPA attempted to license every farm-feeding operation in this country, it would not only unduly burden the farm community but it would create an impossible administrative burden for EPA, would it not?

Mr. BREIMHURST. It would for EPA and also for the States. We don't feel that is a manageable approach. We also feel that going that approach would dilute our efforts in addressing the serious problems such that we would not be able to give attention to the serious problems and we would not effectively control pollution.

Senator STAFFORD. Thank you.

Thank you, Mr. Chairman.

Senator McCLURE. I have just a couple more questions on a much more general light.

I assume that even a pasturing operation can contribute something in the way of pollution to the watercourses?

Mr. BREIMHURST. It may, in some situations.

Senator McCLURE. If I understand what you are saying, that gets down to such a small degree that it is not the kind of thing you want to have to devote time and personnel to?

Mr. BREIMHURST. Not through this permitting type program, sir. We don't believe that is necessary.

Senator McCLURE. I saw one instance in my State where there was a rather large reservoir which had been fenced off to cattle. It seems there were about 40 head of cattle that would sometimes wander down into the water and that they were not always discreet when they were in the water. At the same time, there were about 150,000 geese and 500,000 ducks using the reservoir. No one seemed to care very much about the geese and the ducks polluting the reservoir.

I suspect that the cattle had very little to do with the condition of that water compared to all those geese and ducks.

Mr. BREIMHURST. I would share your belief on that point.

Senator NELSON. Thank you very much, gentlemen, for your very valuable contribution to this dialogue on this issue. We appreciate your taking the time to come here and present your testimony.

Thank you.

Our next panel will be Mr. Reuben L. Johnson, director of legislative services, National Farmers Union; Mr. Charles L. Frazier, director, Washington office, National Farmers Organization; Mr. Bruce Hawley, assistant director of government relations, American Farm Bureau Federation; Thomas R. Hovenden, vice chairman, Environmental Sciences Committee, American National Cattlemen's Association; and Mr. John B. Adams, director, environmental and consumer affairs, National Milk Producers Federation, Washington, D.C.

A PANEL OF FARM GROUPS CONSISTING OF REUBEN L. JOHNSON, DIRECTOR OF LEGISLATIVE SERVICES, NATIONAL FARMERS UNION, WASHINGTON, D.C.; CHARLES L. FRAZIER, DIRECTOR, WASHINGTON OFFICE, NATIONAL FARMERS ORGANIZATION, WASHINGTON, D.C.; BRUCE HAWLEY, ASSISTANT DIRECTOR OF GOVERNMENT RELATIONS, AMERICAN FARM BUREAU FEDERATION, WASHINGTON, D.C.; THOMAS R. HOVENDEN, VICE CHAIRMAN, ENVIRONMENTAL SCIENCES COMMITTEE, AMERICAN NATIONAL CATTLEMEN'S ASSOCIATION, BOISE, IDAHO; AND JOHN B. ADAMS, DIRECTOR, ENVIRONMENTAL AND CONSUMER AFFAIRS, NATIONAL MILK PRODUCERS FEDERATION, WASHINGTON, D.C.

Senator MCCLURE. Might I make a remark by way of introduction? We have a man testifying before us this morning who has been a longtime friend of mine and who is very capable of representing the American National Cattlemen's Association and Livestock Feeder Groups. Tom has contributed a great deal to the betterment of conditions in his industry and to a public understanding of the problems that the industry confronts. I just wanted to express my delight at having Tom as one of the witnesses, and I know that the panel will benefit from the statement that he will make on behalf of the ANCA.

Senator NELSON. Thank you. I notice all of the panel have submitted statements that I have not had a chance to read but my legislative director, Mr. Nedelman, has read them and thinks they are well done. If it is possible, it would be helpful if each of you would summarize your statements addressing yourselves to the specific problems we are dealing with and anything you think any other witnesses may have missed.

If you desire to read it all the way through, of course, you are entitled to. If you can summarize it, it would be helpful. Have you decided who would start? Identify yourselves, if you would, for the reporter each time you speak so we will have the public record correct.

Mr. **Hovenden**. I am Thomas R. Hovenden from Boise, Idaho. I am the secretary-manager of the Idaho Cattle Feeders Association and for the past 3 years have been vice chairman of the Environmental Sciences Committee of the American National Cattlemen's Association.

I will attempt to summarize here. I think I am an expert witness in the fact that I have led the cattle feeding industry into a program.

EPA from region 10 in Seattle reports they have processed 69 permits in Idaho. This includes 4 dairies and 65 feedlots. It will include all of the feedlots of over 1,000 head of cattle and a number who have less than 1,000 head of cattle. I have a great deal to do with writing the current regulations for the American National Cattlemen with the help of people all over the country and we were in agreement with them. We are now faced with the problem of establishing a permit program that is much more far-reaching. There are two ways to approach it. One consideration would be to make the owner of one cow or one horse or one chicken obtain a discharge permit.

Since this is a democracy with equal rights for all, I think we should pursue it right down to my neighbor and his cat who visits my yard. This would certainly get the attention of the voters in the Congress and bring about some changes.

The feedlot industry has spent millions of dollars and long before the EPA existed and before the Water Act was passed they have done much work to protect the Nation's water from feedlot effluence. There has been very little Government subsidy for this and very few of these dollars have in anyway increased their productivity ability.

The second approach is a report prepared by Dr. B. P. Cardon of Tucson, Ariz., and presented at the hearing in Omaha on September 10 which Mr. Albert Prinz presided over. This report was drawn up by a series of representatives of the cattle industry and some agricultural scientists who have studied this problem in great detail for a number of years. It is presented here as a part of my testimony.

Section 1 deals with an enlarged definition of concentrated animal feeding operations that allow for variables in size, animal concentration, and distance from a receiving stream.

Section 2 deals with hydrologic models to predict quantity and quality of runoff. It is obvious that many factors are involved that extend beyond one simple definition or standard to apply countrywide.

Section 3 deals with the economic impacts of BPT and BAT versus size. Due to the economies of size, the greatest impact will be upon the smaller operator. This is particularly true with the dairy people because I have advised them, Mr. Chairman, in our State, because they generate a lot of what is called processed-generated wastewater in their cleaning operations in addition to the normal precipitation that we contend with in say just a plain feedlot. But what will be achieved if we establish standards that will force many smaller operations out of business? What will be the cost of administering a permit program right down to the smallest operator and what will this cost the consumer in food prices? The value gained must be weighed against the cost of the program.

Section 4 deals with the effluent limitations and suggests that standards be established on a performance base after considering the many differences in climate, size, animal types, topographic, cultural, and economic parameters. Alternate technologies must be developed.

Section 5 has some far-reaching recommendations on the land application of manure. Lands receiving this product should be considered as a nonpoint source of discharge.

Section 6 deals with the administration of the program.

Senator NELSON. What was that last sentence, would you read that again?

Mr. HOVENDEN. Land receiving this product should be considered as a nonpoint source of discharge.

Section 6 deals with the administration program and strongly urges continuation of State programs that are close to the people. We cannot become overloaded with administrative rules and expanding bureaucracy, continuing litigations, and nonproductive expenditures of capital that do not increase the efficiency when our original goal was the simple intention of keeping the crap out of the creek.

In conclusion, I would strongly urge the Congress and the agency to work more closely with the livestock industry and scientists of this country. It is most exasperating to respond to studies of the industry made by engineering firms with few agricultural engineers on their staff and no grasp of the industries being studied.

I would call attention to the committee that the livestock industries represented here today have already made large commitments of their own money to programs to protect the Nation's waters.

I would like to express our appreciation to the Agricultural Research Service of the USDA for the fine cooperation and research work they have done on our behalf.

If we will go on to the report, there is a list of these scientists who were at the Manhattan, Kans., meeting where the document was developed, and if you will survey the literature you will find that these gentlemen have published many fine papers on runoff and evaluating the quality of this runoff.

We prefer alternative 3 which takes the present definition and adds on, (A) open lots with space allotted per animal equal to or less than 4 square feet per pound of finished live weight. And the period of animal occupancy is 45 days or more per year, and the distance to a receiving stream is less than 2 feet per 100 pounds of finished animal weight. This means that we are going to have 4,000 square feet or 1,000 pounds of beef animals or approximately 11 of these animals per acre. If they are so dispersed, this would probably be a pasture operation. For dairy cows, a 1,500-pound dairy cow would be about 7 an acre or hogs 50 per acre.

The distance to the receiving stream has great merit. In other words, 20 feet per 1,000-pound steer or 100 steers, 2,000 feet from a stream or nearly a half-mile from a stream really do not present a problem in establishing this formula for classifying. Or this would mean 30 feet per cow or 100 cows 3,000 feet from a receiving stream, and this again would be a point to exclude these people from the permits program because they do not present a problem.

In addition, I have a paper here from Doctor John Sweeten, from Texas A. & M. who is one of the technical advisors to our committee and further defines this.

We all think that this particular definition should be inserted but as defined above as a concentrated animal feeding operation in place of the terms, animal confinement facility and feedlots that are now used, interchange them.

Section 2, comments on hydrologic model. There is quite a list of variables you can put into these things and there have been great studies of what runs off from a feedlot. These studies are made right at the feedlot. We notice in areas of high rainfall that the runoff is cleaner there because it is rinsed or washed more frequently by a rainstorm, whereas in a dry area you get quite a concentration.

We do notice that when we run this stuff off from feedlots that if we can run it through a porous dam at the feedlot and then run the water into a porous structure, if we can detain this liquid for 30 to 60 minutes that we settle out a great number of the solids that make a high BOD demand upon the receiving water. So if this is flushed through such a system we vastly improve what goes off.

Unfortunately, we have not had much work done downstream from a feedlot. This brings us into the thing of what we call the transfer functions of the watershed. Our scientists are starting to do some work. When this material runs out onto a pasture or field what happens to it? Certainly the solids stay behind. That first heavy flush of nitrogen in the first runoff is diluted, going into the soil, it is mixed with other water and you have vast dilution because it rains not only on the feedlot but on the grounds around the feedlots. You wonder about the decay rate and transfer function of this material as it moves through a field. I testified 2 years ago and presented a statement to Mr. Reuss's committee of a feedlot, a watershed in southwest Iowa where there was year-round spring and the sample water at the bottom of this watershed of some 400 acres, they had a small hog lot, a small feedlot close to the stream and only once in 2 years did the total water running out of this watershed exceed the limits for the quality of water in this country. So there are a great many miracles that happen in the pasture, on the grounds and on the feedlot floor itself. We are a number of years away from that but we should study it and give credit to these transfer functions.

The economic impact of the BPT and BAT is considerable. We must consider land application of manure. Heretofore our best idea expressed is to dig a large hole in the ground. We have found in recent research as we analyze the runoff from these feedlots that many feedlots have never built a hole in the ground and when you have thousands of dollars invested in an oversized hole in the ground, it is awfully hard to recover that investment. We know better how to design these structures.

There are variable costs that are made in the report for the Commission on Water Quality which show that the larger over-1,000-head feedlots will cost them $130 million and the feedlots of less than 1,000 head will probably cost them $581 million to meet the same deal just for beef feedlots.

There is a point, however, in size because you have to create so much runoff for every animal that you essentially do get out to a straight line. In our original concept we did accept the idea of this 1,000-head because these larger feedlots, we felt, were better able to meet the requirements for the pond.

We must go to performance standards and we have to consider the net or total effect. I think the people from Minnesota had a point here when they said that maybe one feedlot does not, but you take an entire watershed and you get into this thing.

We look at our State and we have about 200,000 head of cattle on feed, we are about equivalent to Minnesota on cattle on feed. But these 200,000 cattle are scattered 380 miles up and down the Snake, Boise, and Payette Rivers. So we have tremendous spreadout of these feedlots. There is no one point of concentration. On the land application of manure, there are some new technologies to construct terraces immediately below a corral where the water will run back and forth, you shape the ground so it will pass over several areas and not run straight through like a chute. We must consider this means as a constant application of manure to that ground. We would like to see what happens below that. We thought that it will be cleaned up a great deal and when you finally get runoff from that you have much other runoff that will go on down to the river. These rivers have drained the country for years. We have fish. We have waterfowl in there and many other nature forms that depend on nutrients being added to the water so their lifestyle will go on and their contribution to the river is such that, particularly with the waterfowl who are noted for their great production of coliform bacteria, that they just do so much more to it than any of our animals that we use.

On the administrative devices, we think that to have the State issue permits must be our goal. In our State we work with the EPA but we work through the State. The State checks out the applications and we work very closely with them. We find differences in State programs. We find differences in the various EPA regions. It is exasperating to see a feedlot in Gila Bend Ariz., 15 miles from a river where they receive 4 inches of rainfall a year going through study-after-study on the type of soil, the slope, energy studies and everything else to get a simple permit out there where the water is not going anywhere anyway.

The federally issued permits should only be used in those cases where the States do not have the capability.

We do not really understand the areawide permits and block permits but we think that some of the definitions we have presented in this paper will make it possible to move into permits based upon the size, based upon rainfall in the area. It has only been recently that we have found that runoff is directly related to the moisture deficiency, you get much less runoff from a feedlot where there is a high evaporation rate that exceeds the moisture than you do in the Midwest where the precipitation probably equals the evaporation.

We just cannot write a countrywide program. There are disadvantages to the block program, there are advantages. But we feel that going to the States and using some of these formulas we might be able to approach this thing in a logical manner. Thank you.

Senator NELSON. Thank you very much.

[The prepared statement of Mr. Hovenden follows:]

Statement
of
American National Cattlemen's Association
by
Thomas R. Hovenden, Vice-Chairman
of
ANCA Environmental Sciences Committee
before the
Select Committee on Small Business
U. S. Senate
October 22, 1975

I am Thomas R. Hovenden, I reside in Boise, Idaho. For the past 10 years I have served as the Secretary-Manager of the Idaho Cattle Feeders Association. For the past 3 years I have served as Vice-Chairman of the Environmental Sciences Committee of the American National Cattlemen's Association.

In my every day work I cope with the varied problems facing the nation's cattle feeders, ranging through dealings with government regulatory agencies, legislative bodies, beef grading standards, animal health programs, subjects relating to nutrition, feed and grain supplies, marketing programs, cattle numbers and the full scale of environmental relationships. I publish bulletins, papers relating to feedlot problems, produce radio programs, and write for a national feedlot publication, CALF News, as Northwest Editor.

Records at the Region X office of the EPA in Seattle will show that 69 applications for discharge permits under the NPDES program have been received from Idaho. These include 65 beef feedlots and 4 dairies which would include all beef feedlots of over 1,000 head capacity and some under this number.

In the late nineteen sixties there were many rumblings about feedlot degrading water quality. We were a target industry. Many ill founded myths were echoed. Nice ladies who termed themselves "ecologists" would call my office and inform me that a feedlot of 10,000 head of cattle was equivalent to a city of 50,000 people with no municipal sewage treatment plant. These were omens of difficult times in our future.

In 1969 our Directors voted to participate actively in a joint Federal-State study through the laboratory of the Federal Water Quality Administration at Corvallis, Oregon. The report from this study was frightening and would have virtually removed all animal feedlots from many areas of Idaho. As a result of this report, we did publish a pamphlet entitled "The First Step" and talked of "total retention" of feedlot runoff. Many of our guidelines are quite similar to those that have been published in the Federal Register by the EPA. Our feeders began to quietly work towards attaining these goals. Certainly, all new feedlot construction taking place after July of 1970 embraced these guidelines.

We were not alone in this effort. Cattle Feeder Associations in California, Texas, Colorado, and Kansas were also devoting many of their assets towards work in this same direction. We were hampered by a lack of credible information. In 1968 the Agricultural Research Service of the USDA stated to produce some excellent research work on the problems we faced. We did not hesitate to seek answers. In our own case, I was given the green light to attend such conferences as the International Symposium on Livestock Wastes at Ohio State University in 1971. We brought able scientists to our state to discuss this situation. Notable work was done in Nebraska by an ARS team headed by Dr. T. M. McCalla, a noted microbiologist. We have relied heavily on findings based upon credible scientific investigation. At both the state level and in the Environmental Sciences Committee of the ANCA we have established the principle of accepting that evidenced produced by proper investigation and to abide by its dictates.

In 1973 I was invited by the ANCA to be the Chairman of a national meeting sponsored jointly by the EPA and the ANCA. Its purpose was to bring all of the then assembled knowledge on the subject of feedlots and water quality to the attention of the American cattle industry. As Chairman, I sought out the full participation of the National Livestock Feeders Association and all state livestock Associations.

In accepting this assignment, I found that I also had the responsibility for preparing ANCA responses in the rule making process of establishing guidelines. I did not do this alone, relying instead upon a wide range of expertise from the scientific community, other livestock associatons and progressive leaders in the cattle feeding community.

Our first task was to quickly respond to the Hamilton Standard Report, a study made by an aero space corporation for the EPA on the feedlot industry. In following the dictates of Public Law 92-500, Hamilton Standard simply recommended "Zero Discharge". This was not acceptable. Thus began my education in confronting 92-500 and the man problems in the interpretation of its meaning and intent. The law required the permit system to be established by April 18th and the final guidelines to be in place by October 18th, 1973, one year after its passage. These time constraints were most narrow, and in my opinion,denied the industry its full rights to be heard and offer inputs. The contact of Hamilton Standard with the feeding industry and its trade associations was minimal.

With the help of a strong advisory panel I assembled the ANCA response to the EPA proposal that appeared in the September Federal REgister. We found the final EPA proposal generally acceptable. In November of 1973, I appeared before the Government Operations Sub-Committee of Rep. Henry Reuss on behalf of the ANCA. Our position was to defend the cutoff figures of feedlots of 1,000 head and dairies of 700 head and to classify lesser operations as Non Point Sources of Discharge. We are here today because a Federal Court did not find this to be the intent of the law.

At our ANCA-EPA Action Conference in 1973, I asked Rep. Morris Udall to be our keynote speaker. Mr. Udall emphasized the point that the 1972 Water Act was the product of the Congress and that our differences should be taken up with Congress and not the EPA in regards to its effects, meanings and interpretations. I feel that we do need changes in 92-500.

We are now faced with establishing a much more far reaching permit program. There are two ways to approach it. One consideration would be to make the owner of one cow, or one horse or even one chicken obtain a discharge permit. Since this is a democracy with equal rights for all, we should pursue this permit system right down to my neighbor and his pet cat who visits my yard. Exclude all exemptions. This would get the attention for the voters and the Congress. After all, we have only tred upon the loss of the larger livestock operators to date. They have done a remarkable job without government subsidy. They have spent millions of dollars in their contributions to the environment and few of these dollars have in any way increased their productive ability.

A second approach is the report that Dr. B. P. Cardon of Tucson, Arizona to the EPA hearing conducted by Mr. Albert Prinz, Chief of the Permit Division of EPA at Omaha,Nebraska on September 10.

As Chairman of the ANCA Environmental Sciences Committee, Dr. Cardon asked a number of qualified representatives of the scientific community and cattle feeding industry to prepare such a report. The people at this meeting are listed in the report. They met in Manhattan, Kansas and spent two days developing the document.

Section I deals with an enlarged definition of a "Concentrated Animal Feeding Operation" that allows for variables in size, animal concentration and distance from a receiving stream.

Section II deals with Hydrologic Models to predict quantity and quality of runoff. It is obvious that many factors are involved that extend far beyond one simple definition or standard to apply continent wide.

Section III deals with the economic impacts of BPT and BAT versus size. Due to the economics of size, the greater impact will be upon the smaller operations. What will be achieved if we establish standards that will force many smaller operations out of business? What will be the cost of administering a permit program right down to the smallest operators and what will this cost the consumer in food prices. The value gained must be weighed against the cost of such a program.

Section IV deals with effluent limitations and suggests that standards be established that are truly performance-based after considering the many differences in climate, size, animal types, topographic, cultural and economic parameters. Alternate technologies must be developed.

Section V has some far reaching recommendation on the land application of manure. Land receiving this product should be considered as a non point source of discharge.

Section VI deals with Administration of the program and strongly urges continuation of state programs that are close to the people. We can not become over loaded with administrative rules, an expanding bureaucracy, continuing litigation, and non-productive expenditures of capital that do not increase efficiency when our original goal was the simple intention of keeping the crap out of the creek.

In conclusion, I would strongly urge the Congress and the Agency to work more closely with the livestock industries and scientists of this country. It is most exasperating to respond to studies of the industry made by engineering firms with few agricultural engineers on their staff and no grasp of the industries being studied. I would call attention to the Committee that the livestock industries represented here today have already made large committments of their own money to programs to protect the nation's waters. Few, if any government subsidies have been granted for this effort. I would like to express our appreciation to the Agricultural Research Service of the USDA for the fine cooperation and research work they have done on our behalf.

5

AMERICAN NATIONAL CATTLEMEN'S ASSOCIATION

SPECIAL REPORT

FEEDLOT RUNOFF CONTROL FROM POINT/NON-POINT SOURCES

PREPARED BY: SPECIAL SUBCOMMITTEE FROM THE ENVIRONMENTAL SCIENCES
COMMITTEE OF ANCA

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John M. Sweeten - Extension Agricultural Engineering, Texas A & M Univ. Chairman of Committee

I. Definition of "Concentrated Animal Feeding Operations"

We propose that one of the following four (4) definitions of "Concentrated Animal Feeding Operations" be substituted for the present definitions in 40CFR 124.1(u) and 125.1(ii):

Alt. No. 1. Use definition of "feedlot" as in 412.11(b) of Feb. 14, 1974.

Alt. No. 2. Same as No. 1 plus:

"and for the purposes hereof, the term 'discharge' means the flow of feedlot runoff to the waters of the U.S. from a precipitation event of a magnitude smaller than the 10 yr., 24 hr. rainfall."

Alt. No. 3. Same as No. 1 plus:

"A. Open Lots

(1) the space allotted per animal is equal to or less than 4 sq. ft. per lb. of 'finished' liveweight and

(2) Period of animal occupancy is 45 days or more per yr. and

(3) the distance to a receiving stream is less than 2 ft./100 lbs. of 'finished' animal liveweight."

(The important factors to consider are space per animal, time of occupancy, and distance from a navigable stream. The numerical values assigned above represent "average" values and would depend upon soil type temperature and rainfall. As an example, a space of 2 sq. ft. per pound of finished liveweight might be adequate in the dry southwest where in another area 5 sq. ft. might be required. This points up the importance of local interpretation and control of regulations.)

"B. Housed Lots

(1) period of animal occupancy is 45 days or more per year and

(2) the process generated wastewater exceeds 20 cubic ft./day.

Alt. No. 4. Same as No. 1 plus:

"and from which a discrete discharge to the waters of U.S. resulted from less than the 10 yr., 24 hr. rainfall event or equivalent has been documented by physical and chemical analyses of water samples to violate water quality standards in the receiving body of water."

(ANCA favors Alternative No. 3 of the 4 alternatives proposed above.)

In addition, we propose that the term "concentrated animal feeding operation," as defined by one of the above, be substituted for the present terms "animal confinement facility" in 40 CFR 124.1(u) and 40 CFR 125.1(ii) and "feedlot" in 40 CFR 412.11. This will eliminate the latter two terms from the regulations altogether and replace them with the single term "concentrated animal feeding operation" which is directly used to define "point source" in Section 502.14 of PL92-500.

II. Comments on Hydrologic Model to Predict Quantity and Quality of Feedlot Runoff

Much research has been done during the past 10 years to quantify the amount of feedlot runoff. Much research has gone into measuring the water quality from specific types of feedlot operations. Thus, at this time we can predict the quantity of runoff from feedlots with a high degree of accuracy. We can also make general statements about the quality of runoff from the feedlot itself. However, models which combine hydrologic and water quality parameters in a manner to identify the quality of feedlot runoff at various distances from the feedlot boundary are not available.

Hydrologic Models

Many hydrological parameters are available for input into hydrologic models. These parameters may include the following:

1. Area of feedlot
2. Surface slope
3. Slope length
4. Vegetative or other surface cover
5. Depth of manure pack
6. Animal type and density
7. Presence of bedding material
8. Antecedent moisture conditions

II. Comments on Hydrologic Model to Predict Quantity and Quality of Feedlot Runoff

Hydrologic Models - continued

9. Temperature
10. Rainfall intensity and form of precipitation (snowmelt or rainfall)
11. And many others.

The number of parameters used depends on the degree of sophistication of the hydrologic model. Models such as modified forms of the Stanford Watershed Model require several parameters. Other more simple models such as the Soil Conservation Service runoff model and hydrograph model require only a few parameters.

In general the following parameters:

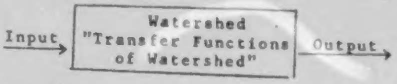
1. daily precipitation,
2. daily temperature,
3. area of feedlot,
4. slope of feedlot,
5. surface condition of feedlot, and
6. antecedent moisture conditions,

can be used to calculate daily runoff quantities. These models can be easily run and the output is believed to be very accurate.

11. Comments on Hydrologic Model to Predict Quantity and Quality of Feedlot Runoff - continued

Water Quality Models

The basic problem with water quality models is the lack of knowledge about "transfer functions" taking place on a watershed. Researchers have measured inputs to watersheds and they have measured outputs from watersheds. For instance, we know that installation flow-through of debris basins that will detain runoff for 30 minutes, can reduce the total solids in feedlot runoff by 80 percent.



However, the identification of particular transformations and "transfer functions" within the watershed are inadequately known. We need to know the following items:

- I. Decay rates of chemicals or organic compounds.
  - 1. Effects of temperature
  - 2. Effects of manure composition
  - 3. Effects of time
  - 4. Effects of moisture
- II. Transport phenomena
  - 1. The way constituents move across watershed.
  - 2. Values of diffusion coefficients and other transport mechanisms.

II. Comments on Hydrologic Model to Predict Quantity and Quality of Feedlot Runoff

Water Quality Models - continued

III. Transformation of chemicals on watershed

1. Effects of chemical species
2. Effects of chemical kinetics
3. Effects of chemical adsorption
4. Effects of microbial transformations such as conversion of ammonium to nitrate.

IV. Solubilities of different organic and chemical species on watershed

Without this knowledge on water quality parameters, adequate models to predict water quality at various distances from the feedlot boundary are just not available. It is an area that needs additional development.

In general, more and better information concerning water quality downstream from a feedlot can be developed through adequate water quality monitoring programs rather than through the development of water quality models. We are probably 10 years away from the development of adequate water quality models.

III. Economic Impact of BPT and BAT vs Size

Economics of carrying out objectives of P.L. 92-500 for food animal production encompass a diversity of concerns. Of primary importance are methodologies that assure the livestock and poultry producer a fair profit and concurrently provide the public an adwquate supply of food at reasonable cost.

First, consideration must be given to the disparity in economics of size; the greater impact being on the smaller operations. Other factors influencing economics are:

1. Weather and climatic factors
2. Type of soil and cropping practices
3. Topography
4. Animal species and management practices
5. Nutrient regimen or feeding practices
6. Equipment and operation costs
7. Local sanitary and health regulations

Although land application of manure is a rational process, it is recognized as a complex subject; the nutritive value being influenced by the physical state such as solid, liquid, further processing such as composting, dehydration, etc. Each of these methods or systems represent different economic costs in relation to energy demands and recovery. Although BPT and BAT are commendable goals, they are oflittle value if their forced applications are so costly that they force cessation of the operation.

III. Economic Impact of BPT and BAT vs Size - continued

Also, it must be taken into account that animal manures, when used as soil nutrients, do not release all of the available nitrogen to crops immediately. They must, through natural biological process, be converted to nitrate for plant uptake. Further, use must be managed to avoid nutrient imbalances that could result in adverse effects to both plants and ground water.

Economic impact assessment must also take into account governmental or societal costs for administering regulatory programs; costs to producers for consultative services and maintenance of facilities; and increased costs to the consumers for the finished food product.

Data assembled by Development Planning & Research Associates, Inc. for the National Commission on Water Quality, to assess costs, capabilities and economic impact of equal water pollution controls for the feedlot industry can be used to determine the cost-effectiveness of pollution control for various sized units. This analyses is based upon the following data and assumptions:

1. Effluent Control Costs for Nation

Cattle Feedlot Size, Hd.	Total Cost
0 - 100	$ 352 x 10^6
100 - 500	$ 156 x 10^6
500 - 1000	$72.8 x 10^6
>1000	$ 130 x 10^6

10^6 million

III. Economic Impact of BPT and BAT vs Size - continued

2. Animals Marketed

Feedlot Size	Total Production	Turnover	Capacity
0 - 100	3.6 x 10^6	1	3.6 x 10^6
100 - 500	6 x 10^6	1.1	5.5 x 10^6
500 - 1000	5.7 x 10^6	1.5	3.8 x 10^6
1000 - 10,000	5 x 10^6	2	2.5 x 10^6
10,000	11.3 x 10^6	2	5.65 x 10^6

3. Total Nation Cost

Feedlot Size	Cost/Head	Total Cost
0 - 100	352/3.6 = 97.7-(100)	\$352 x 10^6
100 - 500	156/5.5 = 28.4-(30)	\$156 x 10^6
500 - 1000	72.8/3.8 = 19.2-(20)	\$72.8x 10^6
0 - 1000		\$581 x 10^6
1000 -10,000	40/2.5 = 16.0	\$ 40 x 10^6
>10,000	90/5.65= 15.9	\$ 90 x 10^6
>1000	130/8 = 16.3-(16)	\$130 x 10^6

This shows, among other things, that feedlots with over 1000 head of cattle capacity, producing 16.3 million head of cattle, can control pollution at a total cost of \$130 million, while the smaller feedlots, producing 15.3 million head of cattle, can provide an equal degree of pollution control only with the expenditure of \$581 million, or 4.5 times the amount for the larger lots.

III. Economic Impact of BPT and BAT vs Size - continued

The cost/head marketed per year/unit of abatement can be derived and presented in a graphical form based upon two assumptions:

1. Waste production is linearly related to feedlot size
2. All treatment facilities perform at same efficiency or % abatement level regardless of size

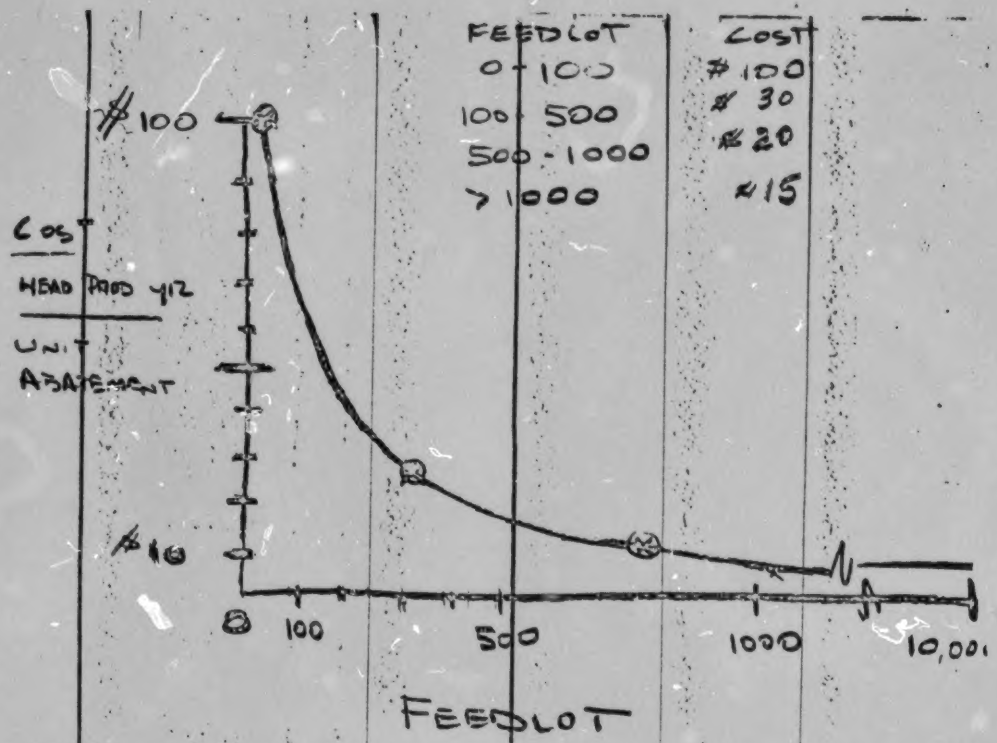
(see attached graph)

This cost analyses doesn't include permit administrative costs which are variable but judged to be about $700.00/producer in Kansas, and $1400 per permit issued in Texas.

The total national costs to control wastes for production units over 1000 capacity of $\$130 \times 10^6$ is greater than for all units below 100 capacity of $\$352 \times 10^6$. Thus national resources are most cost-effective for larger feedlots in that more abatement is achieved at a much lower expenditure.

According to the following proportional index derived from preceding data:

Feedlot Capacity	Cost/Production/Abatement	Interstrata Multicative Factor
>1000	16	x 1.25
500 - 1000	20	x 1.5
100 - 500	30	x 3
0 - 100	100	

COST
HEAD PROD YR
UNIT
ABATEMENT
$100
$10
0
100
500
1000
10,000
FEEDLOT
FEEDLOT
0-100
100-500
500-1000
>1000
COST
$100
$30
$20
$15

III. Economic Impact of BPT and BAT vs Size - continued

This economic strata could also serve as rank basis for point source categories. Although it is quantitatively associated; cost-effectiveness is the theoretical generating principal.

IV. Recommendations on Effluent Limitations

A. Climate

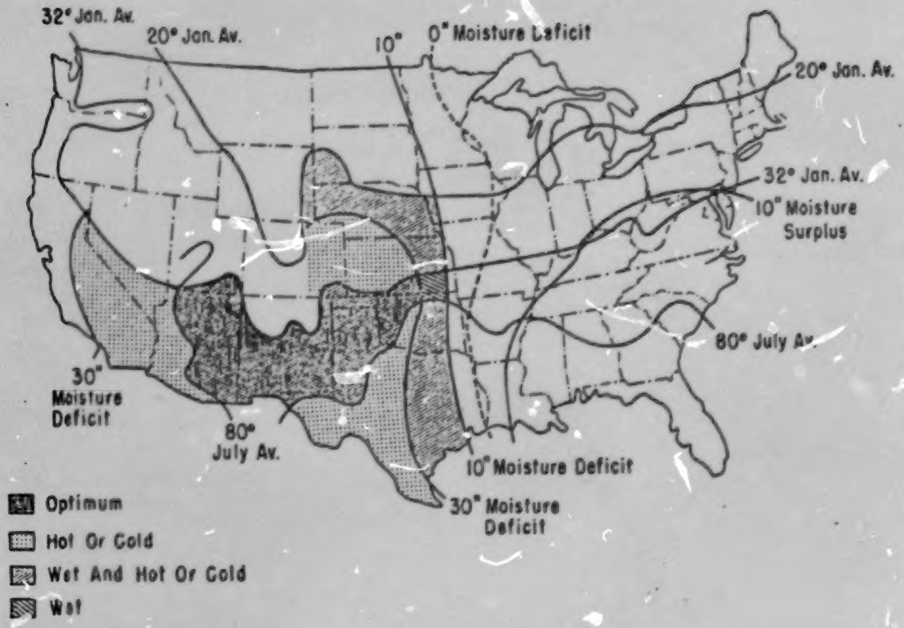
The quantity and quality of effluent produced by precipitation is dependent on the climatic conditions of the area. Basically, the important climatic factors are precipitation, evaporation, and temperature. (See Figure)

The run-off quantity is greater in the cool, wet area as compared to the cool, dry area; however, the run-off quality is less polluted in the cool, wet area as compared to the cool, dry area. The cold areas have to deal with snow melt, while the other areas do not always have to be concerned with controlling snow melt. Because of the large variation in climatic patterns (precipitation, evaporation) the best technological practice is not the same for the entire United States.

B. Performance Standards

It is our understanding that the current effluent limitations were developed and applicable only for the larger concentrated animal production operations over the 1,000 head, or equivalent, capacity. At the same time, numerous shortcomings in the existing guidelines have been pointed out by qualified agricultural scientists and engineers, both inside and outside the agency structure.

It is recommended that an effort be made to develop new effluent standards that are applicable to all facilities required to obtain



Beef cattle feeding areas based upon climate permits and that are truly performance-based. These effluent limitations should take into consideration all pertinent climatic, topographic, cultural, economic and managerial parameters. Cognizance should be given to currently available and evolving technologies which offer substantial promise of effectively reducing pollution discharges from many feedlots but which are much more efficient than the currently mandated designs.

C. Alternate Technologies For Control Of Discharges From Concentrated Animal Feeding Operations

Alternate technologies for direct disposal of feedlot run-off have been developed. These systems eliminate the problems and expense of storage facilities and effluent distribution systems. A field sink or total field infiltration system is applicable in moisture deficit areas, and in moisture balance and moisture excess areas with permeable soils. Serpentine, switchback waterway or terrace systems can be used to infiltrate the initial run-off from feedlots and will ultimately discharge only when run-off is delivered from adjacent crop and grassland. Direct disposal provides not only lower cost installation for many feedlots, but also the best possible technology on the basis of required management and economic impact on the industry for small average-sized units.

Zero discharge from feedlots is not an environmentally required goal where these discharges:

1. Occur only in conjunction with discharges from the

surrounding land area,

2. are free of the initial chemical "flush" and transported solids contributing to high BOD and nutrient contents, and
3. are delivered to the receiving stream with additional dilution and as a minor contribution to the total flow of that stream.

This can be achieved with direct land disposal.

D. Contracts And Consultations With Qualified Agricultural Scientists And Procedures

P.L. 92-500 States (Section 104a, 5p)

".... the Administrator shall in co-operation with the Secretary of Agribulture, other federal agencies, and the states, carry out a comprehensive study and research program to determine new and improved methods and the better application of existing methods of preventing, reducing, and eliminating pollution from agriculture, including the legal, economic, and other implications of such methods."

But the events of the last three years have clearly shown an almost blatant disregard of this section of P.L. 92-500. Contractors and consultants with no or few agricultural scientists on their staffs have prepared some of the major development documents for concentrated animal feeding operations. Almost, without exception, these contractors and/or consultants have inundated the research and extension divisions of the U.S. Department of Agriculture and to the state land grant universities with requests for data and guidance.

Furthermore, large sums of money for funded research have been expended without adequate co-ordination with the U.S. Department of Agriculture. Even though many of these funds financed agricultural scientists, the ultimate effect of this unco-ordination has been a distrotion of the research priorities and efforts of U.S.D.A.

Cooperation between the Agency and the Department has greatly improved in the past months. We hope that, during the coming document development, EPA continues to benefit from this improved relationship.

V. Recommendations for Land Application of Manure

Traditionally, animal manures have been spread onto land. Long time research plots and field practices have shown manure supplies nutrients to growing plants, enhances the physical property of soil, increases infiltration of water into soil and reduces soil erosion. Land application is an economical and logical method for disposing of manure generated in feedlots.

Land, with its associated plant-soil life system, serving as the terminal receiver for animal manure (both liquid and solid) should be classified as a non-point pollutional source.

Reasons for classifying discharge from land used as a terminal receiver of animal manures as non-point source include:

1. Manure serves as a fertilizer to supply nutrients to crops.
2. Erosion can be reduced by applying manure.
3. Soil serves as an assimilatory system to convert manure into usable plant nutrients.
4. Runoff from land receiving manure has been shown to be of good quality.
5. Pollutional characteristics and mechanisms of land receiving manure are equivalent to other crop producing lands and they should be included together as non-point sources of pollution.

VI. Administrative Devices

Among the administrative devices available to EPA to regulate discharges from concentrated animal feeding operations are the following:

1. State-issued permits, Section 402(b) of PL92-500 ---. We recommend that the system of individual permits issued by state water pollution control agencies to operations be continued. This is the optimum system because it is close to the people, while remaining administratively possible. Those states where documented water pollution problems from feedlots can fit to exact appropriate regulations and to establish effective mechanisms and hire field staff to deal with the problem. This system has proven effective in abating pollution as evidenced by the "track record" in Texas and other states where 95% of the feedlots with over 1,000 head capacity, representing 93% of the cattle on feed in the state, had complied with the requirements of BAT (Best Available Technology) before the NPDES permit program was established and effluent guidelines developed.

   We reiterate -- this is the optimum system from all standpoints.

2. Federally-issued permits ---. This system of individual permits issued by EPA has not worked effectively in many states. Considerable non-uniformity exists in the way that permits are written between different EPA regions. Consider, for example, that the self-reporting (monitoring) mechanism for feedlots has been fully implemented in Texas but has not been implemented in many other states. Hence, we view complete control by EPA of the permitting process is acceptable only as the last resort, a viable alternative only in any instances where the state program is chaotic and ineffectual. We believe this position is consistent with Section 402 of PL92-500.

3. Area wide permits and/or "Block" permits ---. We do not pretend to fully understand the exact legal and administrative means through which EPA will blend the NPDES program into the ongoing Section 208 planning process. However, based on our incomplete understanding which we hope EPA will rectify during this and later meetings, we have listed the following probable advantages and disadvantages:

AREA/BLOCK PROGRAMS

Advantages

1. Local flexibility
2. Fewer permits

VI. Administrative Devices (continued)

Disadvantages

1. Lack of competence at local level
2. Lack of legal authority
3. Lack of appropriations
4. Variation in applicability
5. EPA cannot control uniformity
6. States cannot control uniformity
7. Lack of technical support
8. Administrative burden not proportioned to size of individual problem
9. Educational burden

In short, we would not like to see a promising planning process be adultrated by adding burdensome permitting responsibilities to local/regional agencies with fixed budgets, limited expertise and in many cases, questionable legal authority.

Senator **Stafford**. I do not think I have any questions. That is not to indicate that I am not interested in what you have said, sir. In reading your statement and listening to you very carefully, you are primarily concerned with feedlot operations but I notice on page 4 you do say "our position is to defend the cutoff figures of feedlots of 1,000 head and dairies of 700 head." You classify lesser operations as nonpoint sources of discharge with which this Senator concurs, and I assume that is still your basic position.

Mr. **Hovenden**. Yes, sir. That was our position at the time. Although I represent the feedlot industry I work very closely with the diary industry in Idaho and even have advised them on these different things.

Senator **Stafford**. Thank you. Thank you, Mr. Chairman.

Senator **Nelson**. Are you saying that the definitional approach which you have described in your statement would be in—I am not not making a judgment about it because I am listening to it for the first time, I did not have a chance to read your statement—if adopted, would it be in compliance with the law in your judgment?

Mr. **Hovenden**. I am not an attorney either. But I do think it would be helpful in arriving at something, it is something we have not considered before. This is the best judgment of some people who have studied this problem very closely, however.

Senator **Nelson**. Thank you, very much.

Mr. Reuben Johnson, director of legislative services, National Farmers Union.

Mr. **Johnson**. I appreciate the invitation extended to me to participate in this hearing to discuss questions relating to runoff of water from livestock farming operations.

At the outset, we want to commend the action of the Environmental Protection Agency in holding field meetings during September to solicit comments, criticism and ideas concerning the direction that the Environmental Protection Agency should be taking with regard to runoff from livestock feedlot operations. These hearings held in Boston, Chicago, and Omaha were directed also to water discharge from city and urban areas.

I recall that as early as January 1973, the Environmental Protection Agency assembled representatives of agriculture in Washington for the purpose of discussing appropriate EPA procedure concerning water discharge from feedlots and farms producing livestock, Subsequent to that meeting in January 1973, EPA did publish in the Federal Register on May 3, 1973, and again on September 7, 1973, regulations concerning livestock production operations. However, subsequent to the publishing of these regulations, the so-called Flannery decision, following court review, invalidated the procedures developed by EPA.

I might say we could have lived with those limits.

To give more specific direction to EPA at this time concerning runoff from livestock farming operations, it appears that it may be necessary for the Congress to act. In consideration of this need, we would like to point out that the Soil Conservation Service in the Department of Agriculture has an extensive background in the development of so-called watersheds and has worked very closely with Soil Conservation Districts established for this purpose throughout the

United States. These watershed districts have been concerned primarily with the means of orderly discharge of water and particularly with the retention of rainwater where it falls to prevent erosion, flood damage and to protect tillable land, pasture and forest areas. Therefore, dealing with water problems is nothing new to individual farmers and to organized farmer group effort through establishment of watershed districts.

We appreciate the fact that in the earlier regulations promulgated by EPA, the Agency recognized that water discharge problems on family and moderate-size farms are insignificant and that the agricultural situations that are the cause for greatest concern are those where water discharge is from massive livestock feeding operations in concentrated areas.

A great deal of discharge water, for example, in agricultural areas carries no pollutants whatever. We would stress, therefore, that attention of EPA be focused on larger livestock feeding operations and on other large farm operations, for whatever the reason, pollution constitutes a public hazard.

As an organization that has had as its objective since 1902 the preservation of a family-farm agricultural system, we are convinced that the interest and welfare of the consumers of our Nation in a pollution-free agricultural and national environment increasingly relates to the preservation of the family farm.

Our delegates in Portland in March proclaimed "Environmental protection for the entire Nation can best be maintained through the preservation of family-type farm operators."

The operational structure of family farms engaging in livestock production in order to be efficient and to provide the operator with a sufficient income of necessity requires that animal wastes be recycled back through the soil through the process of natural decay. Animal waste on moderate-sized farms, rather than constituting a problem, provides an increasingly valuable source of fertilizer, which, incidentally, has increased in price three to four times in the last several years.

On most family-operated livestock operations, crop rotation is a common practice so that animal waste and crop residues are both worked back into the soil to enhance the productivity of the land.

We strongly urge that EPA give attention to the unique features of a family farm system of agriculture as contrasted to "factory in the field" agricultural production by large corporations.

Massive livestock feeding operations in concentrated areas constitute, we believe, the major cause of pollution resulting from livestock production and fully warrant, we believe, the concern of EPA in any further development of regulatory procedures.

We presume that EPA is still engaged in consideration of the point of exclusion in agriculture in securing applications for water discharge permits. In this connection, I urge EPA to exclude requirement for making from such applications what we, in our organization, call "commercial family farms". We define these farms as follows: "A 'family farm' is an agricultural production unit where the family manages, takes the economic risk, and provides most of the labor (peak seasons excepted)."

I am sure that the Economic Research Service in the Department of Agriculture could provide useful and helpful information of a statistical nature concerning categorizing of farms that would be useful to EPA in making decisions concerning permits for water discharge.

Let me add before closing, Senator McClure, that we in the Farmers Union feel that the EPA is neglecting to use some of the very finest technical assistance that we could possibly provide them in not making greater use of the people in the Department of Agriculture, in the Agricultural Stabilization and Conservation Service, in the Soil Conservation Service, and in the Economic Research Service in the decisions that EPA are making.

For example, recently in pesticide legislation the Congress in its wisdom has seen fit to require statutorily that the EPA and the Department of Agriculture have more or less equal status in the promulgation of some of the regulations that will be coming out in regard to the use of pesticides. At least the Department of Agriculture will be given equal time in the Federal Register to comment on regulations coming out of EPA.

Chairman Nelson, on behalf of President Tony DeChant, the Farmers Union Board of Directors and Members, we are grateful to you and members of the Senate Select Committee on Small Business for the opportunity to appear here today and to emphasize some of the considerations we believe to be of importance in further deliberations of EPA concerning water discharge and runoff.

Senator McClure [presiding]. Thank you very much for your statement. I hate to interrupt at this time but I will have to go and vote. The committee will be in recess.

[Whereupon, a brief recess was taken.]

[The prepared statement of Mr. Johnson follows:]

National
Farmers Union

Statement of Reuben L. Johnson
Director of Legislative Services
National Farmers Union

Presented to the
Senate Select Committee on Small Business

CONCERNING

The impact on livestock producers of
"non-point source" pollution control requirements

Room 2221 Dirksen Senate Office Building
Washington, D. C.

October 22, 1975

Senator Nelson and Members of the Senate Select Committee on Small Business:

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Suite 1200, 1012 14th Street, N.W., Washington, D.C. 20006 – Phone (202) 628-9774

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To give more specific direction to EPA at this time concerning run-off from livestock farming operations, it appears that it may be necessary for the Congress to act. In consideration of this need, we would like to point out that the Soil Conservation Service in the Department of Agriculture has an extensive background in the development of so-called Watersheds and has worked very closely with Soil Conservation Districts established for this purpose throughout the United States. These Watershed Districts have been concerned primarily with the means of orderly discharge of water and particularly with the retention of rain water where it falls to prevent erosion, flood damage and to protect tillable land, pasture and forest areas. Therefore, dealing with water problems is nothing new to individual farmers and to organized farmer group effort through establishment of Watershed Districts.

We appreciate the fact that in the earlier regulations promulgated by EPA, the Agency recognized that water discharge problems on family and moderate-size farms are insignificant and that the agricultural situations that are the cause for greatest concern are those where water discharge is from massive livestock feeding operations in concentrated areas.

A great deal of discharge water, for example, in agricultural areas carries no pollutants whatever. We would stress, therefore, that attention of EPA be focused on larger livestock feeding operations and on other large farm operations, for whatever the reason, pollution constitutes a public hazard.

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We would be happy to respond to any questions that members of the Committee may have.

Mr. **Johnson**. Mr. Chairman, I concluded my statement. But I do want to emphasize, since you have returned, a point that I made, and that is greater use of the facilities of the Department of Agriculture. I mentioned the fact that we do have Soil Conservation Districts under the watershed program. We do have expertise among farmers in the management of runoff. We are not using it in the context, in my opinion, of the problems discussed in the course of these hearings. We are not using that farmer expertise.

My good friend, Chuck Frazier, here is going to cover this in more detail and I want the record to show that we support him. There just simply would be, in my opinion, greater cooperation in the whole farming community in the goals we are all trying to get at here if the farmers had some self-discipline imposed on them through their own elected farmer committee system. I think it is a shame that we have not utilized the agencies of the Department of Agriculture. I am talking about the soil conservation and other agencies over there who relate to this problem.

I hope the Congress can get greater cooperation between these agencies and the Department of Agriculture.

Senator **Nelson** [presiding]. In listening to the testimony of the panel from Minnesota, from the pollution control agency, I gathered that the system they had established there approaching maximum advantage of the appropriate State agencies, soil conservation service, A.S.C., county agent and they even established a county feedlot supervisor—or whatever the correct name was—in the establishment of their program.

Would that be the kind of objective you would seek to see implemented in other States?

Mr. **Johnson**. If it works on the State level, Senator, it will work on the national level.

Senator **Nelson**. They were operating on the State, county, and probably a township level.

Mr. **Johnson**. They were meeting each other at the State line threshold and they apparently have a good workable procedure. I am just suggesting that they meet on the national threshold.

Senator **Nelson**. My question is, if you did hear the testimony, would you say that what Minnesota is now doing in its cooperative effort with State, Federal, county boards, county agents, approximates the kind of approach that you would like to see; is that what you are saying?

Mr. **Johnson**. I have certainly no fault to find with the type of procedures that I heard the Minnesota witnesses discuss. It seems to me that they ought to be commended for giving some leadership. I am not suggesting that they have solved all their problems yet, but certainly they seem to be headed in the direction that I feel would be very helpful if we were to do it on a national basis through the States.

Senator **Nelson**. In order to be sure we get through all of our witnesses, if you gentlemen can summarize your statements, we would appreciate it. In addition if each of you would address yourselves to the following six questions:

(1) Do you agree or disagree with the thrust of the Muskie-Dole colloquy?

(2) Do you agree that any feedlot that has a collection system that results in any pipe discharging wastes into any stream be defined as a point source of pollution under the act and be required to file for a permit?

(3) What is your opinion of lowering the Muskie-Dole colloquy number for animal equivalents, dairy—say, 100 cows or something like that?

(4) Do you agree that if a feedlot has a stream running through it and the animals have free access to the water, something should be done in terms of fencing to prevent the discharge of wastes?

(5) Do you have any suggestions or formula such as number of feet per head away from the stream?

(6) Apparently, the ASCS program has a $2,500 Federal cost-sharing limit attached to it. Should the limit be raised and, if so, to what level?

If you could summarize, it would help us get through because we are going to get into debate and votes in the early afternoon again and we have six more witnesses in addition to this panel.

Go ahead, Mr. Frazier.

Mr. **Frazier**. Mr. Chairman, on behalf of our members who are involved in livestock and dairy throughout wide areas in this country, I do have several recommendations to offer and I will undertake to summarize my statement for you. I do not undertake to deal in terms of the technicalities, numbers, and so on, but rather in principles that might be constructive and helpful in moving on from the point at which we now find ourselves, as a result of the recent court decision.

My testimony does, as a matter of fact, respond to some of the questions you just enumerated. I would like to emphasize that it is not necessary to deal in terms of numbers of animal units in defining a point discharge location.

For example, I would hope, as some other witnesses have implied, that the authorities who must proceed now to rework these regulations would recognize that most of the farm units involved, whether the production be hogs, cattle, or dairy, that the barns, the lots, the fields, the crop rotations, the slope of the land, make up of soil and so on, all constitute one unit. The operator must think in terms of planning, financing, and operating the whole unit. I believe up until this time, too much emphasis has been given to undertaking some rather academic engineering approach to account for a few acres in one corner of the farm because it happens to be the concentration point for milking or feeding or something of that sort. I am trying to suggest in this testimony that we back off if you please, and approach the point discharge problem with a different analysis.

For example, the Senate colloquy that you referred to, the judge's decision, some of the points made by Mr. Train in recent regional hearings, would all contribute to an approach or at least would countenance an approach that would clearly recognize that many of these concentrated livestock operations are not, in fact, point discharge sources under the law.

If we can accept that principle, then we believe that we should be able to go ahead and define a system of best management practices, for example, that may be used in dealing with the livestock operator in terms of his whole unit, his whole farm, his whole feeding operation, if you please.

If this concept can be developed with the Agency, then perhaps it should not be necessary to change legislation.

I am pleased that the Department of Agriculture and the EPA seem to have been working more closely together recently. We should all foster and encourage this. Much is to be gained.

Let me turn quickly to the question of administration of the program. Throughout the development of regulations, a number of studies were performed by engineering outfits that have inadequate background in agriculture over the last couple of years. It is a shame that the approach made up to this point has developed programs of some sort in only 25 States all over the country. A number of people have felt it necessary to start new committees and start discovering what is involved in the control of runoff when, as a matter of fact, we have in place a system administered by the elected farmer committeemen of the Agriculture Stabilization Conservation Service in each of the counties.

This elected farmer committee has been administering practices for a number of years that apply specifically to the control of runoff and the disposal of waste water. This, in the final analysis, is the focal point of the considerations that face this whole program out over the country. These committeemen have the confidence of their neighbors. They could serve, I believe, more forcefully in an advisory capacity in the States where you do have programs now underway as described in Minnesota and in your own State.

In those States where you have no program, they represent a means of contact with farmers that could be used immediately. After all, the programs that they developed logically are based upon the advice of the soil conservation service technicians, the foresters, the county agents, and other qualified technicians who are familiar with the soil and water problems of the areas.

In concluding my testimony, I quite frankly have made an urgent appeal for the use of this elected committeeman system in ASC. It is established under section 8 of the Soil Conservation Domestic Allotment Act and is supported annually by appropriations of the Congress. I think the $2,500 limitation on payments should be increased. They should have authority to use more money on an annual basis on those units that require heavy expenditure of funds, and it could very well be administered by them. You could provide through legislation, for example, that a larger amount could be used so long as it was still not in excess of 50 percent of the cost of the necessary practices and structures.

The program is currently funded at a little under $200 million a year and this is entirely inadequate. The Congress could increase that appropriation and avoid the necessity of funding the establishment of a whole new system of bureaucrats scattered out over the farm counties in this country.

So, I urge that you look into it. I realize time is limited today, but I believe there is some real potential for improvement in this area.

Thank you, sir.

[The prepared statement of Mr. Frazier follows:]

Statement of Charles L. Frazier
Director, Washington Office
NATIONAL FARMERS ORGANIZATION
Before the U.S. Senate Small
Business Committee
Senator Gaylord Nelson, Chairman
October 22, 1975

E.P.A. REGULATIONS

Mr. Chairman and Members of the Committee, I appreciate the opportunity to appear before you at this time to comment on the consequences of the recent Flannery Decision in the U.S. District Court.

This Court decision terminated the sincere efforts of E.P.A. to exempt certain smaller livestock and dairy units from the permit requirements of the National Pollutant Discharge Elimination System (NPDES) of the Water Pollution Control Act amendments of 1972. Further, the Court ordered the Administrator of E.P.A. to publish proposed regulations by November 10, 1975, and put them out in final form by March 10, 1976, covering all concentrated animal feeding operations. Regulations covering all point sources of pollutants in agriculture, other than those for concentrated animal feed operations, are to be published by February 8, 1976, and to be finalized by June 7, 1976.

The National Farmers Organization quite frankly is alarmed over the prospect that a large number of efficient family-sized units in dairying and livestock production may be forced out of production by hasty decisions drawn primarily to meet the requirements of the Court order. As you are aware, the terrific increases in our costs of production over the last three years have already seriously hampered the industry.

The very experience required to apply modern technology in the production of pork or milk, for example, are such that once a unit of of this size is taken out of production it will not be returned to production. We believe it will be necessary to move forward with some caution and good judgment in carrying out the programs envisioned in P.L. 92-500 or a large number of units producing the milk and meat for this nation will be irreparably harmed.

The brief recommendations offered today will not deal with all the technical phases of implementing the Act, but rather we hope to focus attention on a few principles of good administration and be as constructive as possible.

New Emphasis Needed

It would now seem that the Court's action, even though precluding exemption for small livestock and dairy operations solely on the basis of the number of animal units involved, would permit a policy decision in E.P.A. recognizing two concepts -- first, that all non-point sources of pollutants are excluded from the effluent limitation and the NPDES program, with its stringent controls established for point sources, and, further, it is implied, if not clearly stated, that "concentrated animal feeding operation" may in fact not constitute a "point source" under the law.

These conclusions are clearly within the thrust of the legislative history created when the Act was debated on the floor of the Senate. It is also only fair to remind those responsible for administration of the Act that some sense of judgment and practicability must come into play when dealing with the operators of producing livestock and dairy units.

It has to be recognized that each unit presents its own problems and possibilities for improvement in curtailing the release of pollutants to the nation's water resources. You simply cannot regard the barns and lots as one operation and the pastures, crop fields, streams and related management as another entity. All must be planned, financed and run as a unit. The very movement of livestock from day to day and season to season must be considered. As a practical matter an acceptable disposition of manure on most units requires a system of management that will get most of the potential pollutants out on the land where it may be incorporated in the soil.

Briefly stated, the Administrator is encouraged to rely less upon definition of "point" and "non-point" sources. The regulations should be modified to more clearly apply the more stringent corrective requirements to those concentrated animal feeding operations that are the source of substantial discharge of pollutants leaving the property en route to navigable waters or are located immediately adjacent to a navigable stream or lake of importance as a water supply for a nearby population of people in order to bring the program within reasonable bounds for administration in producing areas.

That shift in approach should be reinforced with a provision of regulations that recognizes the part to be played through sound animal waste management practices. A good system of local administration must take into account the physical factors involved (soil type, size of unit, slope of the land, climatic variations throughout the years, proportion of land in grass and field crops) and the alternatives available to the operator. His economic circumstances must be considered.

Some of our leaders were present at the recent Chicago conference in which Mr. Train discussed these possibilities. They were impressed with the Administrator's willingness to develop practical solutions. Right at this time they will be receptive to new direction in this program. I am sure the response will be constructive if changes in policy along the lines suggested above may be made operative in the new regulations.

Program Administration

It must now be apparent to the administrators of the program as well as the environmentalists who have an understanding of our farms and ranches that the programs required by P.L. 92-500 can be made most effective by placing administration in the hands of knowledgeable local authorities. At this time State agency programs have been developed in about 25 States. There is so much confusion as to who has authority to make decisions and to what extent proposed plans will continue to be satisfactory after commitment of funds and other resources that respect for the program is seriously jeopardized.

The Rural Environmental Assistance Program offers a means to improve both the quality of program administration and the local acceptance by farmers and ranchers. This program is operated through the Agricultural Stabilization and Conservation Service at U.S.D.A. Although the basic law authorizes a larger appropriation, it is currently operated at a level of approximately $200 million. Assistance is offered for the installation of certain facilities needed in pollution abatement on a cost-sharing basis. There is an annual payment limitation of $2500 per individual.

This REAP program is administered through a unique system of elected farmer committeemen. Under Sec. 8 of the Soil Conservation and Domestic Allotment Act, a three-man committee must be elected in each county, even though one office may serve two or three small counties in the light farm areas of the U.S. In program formulation, approval and design of practices and related conservation work,the ASC committee is aided and supported by a technical committee that includes Soil Conservation Service technicians, foresters, county extension agents and occasionally other technical advisors.

The ASC committees are accustomed to making hard decisions. Since they are elected by farmers they are generally representative of the farming activities customary in their communities. They are respected by producers.

Two recommendations are offered.

The appropriation for REAP should be increased substantially and authority should be granted to extend assistance above the $2500 level in those instances where the federal constribution would still be less than 50% of cost.

ASC committees should be brought more concisely into the administration of the programs designed under P.L. 92-500. A capable agency staff exists to service every county. It should not be necessary to fund the build-up of another agency at local levels. There is a history of understanding and experience in dealing with the very problems involved in pollution control.

This might be accomplished either by legislation or by agreement between E.P.A. and the Secretary of Agriculture. Ideally it should not be necessary to cancel or detract from the capabilities and accomplishments of State agency personnel where sound programs are now underway. These committees could be of more assistance than is the case today in States with active programs. In States where an acceptable set of guidelines and actions have not been formulated, such committees could become the local administrative arm to present the program to producers and make the required decisions to get the program moving.

These recommendations are considered all the more meaningful in light of the fact that little has been done to implement Sec. 208 of the Act. At some point in the chain of events that will unfold under this legislation in the next few years the Administrator will need the effective support of producers. Such support can be developed through the farmer-elected committeemen system of the ASCS.

In closing, we appeal for a favorable response to our recommendations relating to implemention of the pollution control program under the Flannery Decision. If large numbers of the smaller livestock and dairy operating units are thrown into the "point source" category and immediately confronted with demands for heavy expenditures on new facilities, we would expect that at least one-third of those units will cease operation. The country cannot afford such an approach at this time.

Senator NELSON. Thank you very much. Our next witness will be Mr. Bruce Hawley, assistant director, Government Relations for the American Farm Bureau Federation.

Mr. HAWLEY. Thank you, Mr. Chairman. Many of our points have been mentioned by some of the other witnesses who have already testified.

I recognize that this committee is well aware of Agriculture's long interest in conservation and water quality and those practices associated with the wise use of the land. This interest has certainly been evidenced by the number of national, State and local conservation programs that Agriculture has endorsed. I think it is quite unfortunate that in the past 2 or 3 years, Agriculture's interest has been turned, not to implementing conservation programs, but rather in reacting to, generally, reacting against, the distortions of well intentioned legislation created by activist lawyers in their attempt to twist legislation to their own purposes.

The title of your hearings relates to small farmers and environmental programs, and as you are aware, in that area, Agriculture has been severely impacted by a variety of lawsuits that have distorted many laws we are trying to work with and effectively implement.

I say "distorted" because as has been pointed out, Senator Muskie who is quite clear in his comments about using an animal number as a definition on concentrated animal feeding facilities and Judge Flannery in his decision acknowledged that, and recommended a cutoff as a a viable option. EPA has indicated this certainly is a practical and reasonable approach. The only question that has been raised about it has been not: will it work, not: will it achieve the goals of law, but will it be acceptable to those lawyers who challenge every thing reasonable men try to accomplish.

I would suggest, as we have suggested in our statement, that we do precisely what Senator Muskie recommends, we do precisely what the judge recommended, we do precisely what EPA has recommended, and if that is not acceptable to the environmentalist lawyers, we will be glad to help this committee, EPA, and others change the law to be in concurrence with what has been stated as Congress, EPA's, and our intent.

In specific answer to some of your questions, yes, we would embrace the numbers that Mr. Muskie has outlined. We do this for several reasons. We have two principal mechanisms in Public Law 92-500, one being the point source regulation and the other nonpoint regulation. Nonpoint regulation by the way it is structured in the law requires major emphasis to be placed on State responsibility and State limitation.

It seems quite appropriate to us that smaller feedlots fall into the nonpoint category, providing flexibility of regulation as the representative of the cattlemen indicated is necessary because of the differences in rainfall, evaporation and other considerations. The States should be allowed to use those programs which they already know at the local level on the farm and to implement them in a practical and workable manner in order to address in a reasonable fashion those farm operations that will not frankly be able to comply with the zero discharge criteria of point source regulation.

Thank you.

[The prepared statement of the American Farm Bureau Federation follows:]

STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION TO THE SENATE SELECT COMMITTEE ON SMALL BUSINESS

The Clean Water Act, P.L. 92–500, has as its broad goal "* * * to restore and maintain the chemical, physical, and biological integrity of the nation's waters." In this abstract form it is surely a goal which we can all embrace.

Two of the Act's significant mechanisms for approaching this goal are section 208 (area wide waste treatment management) and section 402 (national pollutant discharge eliminations system). In February, 1974, the Environmental Protection Agency declared point sources of pollution to be, in part, any discernible, confined and discreet conveyance, including concentrated animal feeding operations. That is where we ran into a problem. EPA defined concentrated animal feeding operations as all feedlots and then exempted those dairies of less than 700 head unless individually identified as significant contributors to pollution. The courts have ruled that it is illegal to exempt classes or categories of point sources.

We do not understand why EPA in taking this difficult approach. Senator Muskie, principal sponsor of P.L. 92–500 in the Senate, said during floor consideration of the Act:

"Guidance with respect to the identification of 'sources' and 'nonpoint sources,' especially as related to agriculture will be provided in regulations and guidelines of the Administration. The present policy with respect to the identification of agricultural point sources is generally as follows:

"First. If a man-made drainage ditch, flushing system or other such device is involved and if measurable waste results and is discharged into water, it is considered a 'point source.'

"Second. Natural runoff from confined livestock and poultry operations are not considered a 'point source' unless the following concentrations of animals are exceeded: 1,000 beef cattle; 700 dairy cows; 290,000 broiler chickens; 180,000 laying hens; 55,000 turkeys; 4,500 slaughter hogs; 35,000 feeder pigs; 12,000 sheep or lambs; 145,000 ducks.

"Third. Any feedlot operation which results in the direct discharge of wastes into a stream which traverses the feedlot are considered point sources without regard to the number of animals involved."

Obviously it was Mr. Muskie's intention to use the NPDES program to regulate large feedlots as the most likely mechanism for addressing the feedlot runoff question. While the mechanism EPA used in February, 1974, to implement the policy described by Senator Muskie technically may not have been legal, it is both practical and logical.

Judge Flannery, who handed down the decision on the point source case, said:

"Furthermore, the court is not convinced that the permit program would be unmanageable without the exemptions granted by the Administrator since there do appear to be alternatives available to EPA for reducing the permit workload. One such alternative would be to refine and elaborate on terms such as 'concentrated animal feeding operation.' The very nature of this term requires that agency discretion be exercised to determine what is encompassed within its scope. Moreover, it appears that Congress intended for the agency to determine, at least in the agricultural and silvicultural areas, which activities constitute point and nonpoint sources."

We recommend that EPA do precisely what Congress advised and what the court has recommended—that is, define concentrated animal feeding operations as dairy farms in excess of 700 head. Smaller dairy farms should be defined as nonpoint sources of pollution; as such they would not escape regulation under P.L. 92–500.

Section 208, the other major provision of this law, requires that all sources of pollution be identified, evaluated, and regulated to the extent feasible. Surely this includes smaller feedlots. The wisdom of such action is obvious. It removes the administrative burden of issuing permits for millions of individual farm facilities. It avoids the legal maneuvering involved in areawide or categorical permits, which, while they may be technically in compliance with the provisions of the law, will not serve the nation's best interests in attainment of the goals of the clean water law. A workable permit program requires monitoring of effluent limitations, and, where technology permits, attainment of zero discharge by 1983.

We recognize the impracticability of these requirements on each feedlot as currently defined. The administrative workload would be exceeded only by the degree of noncompliance. To institute an areawide permit program removing these requirements from individual responsibility would render the program meaningless.

We propose that dairies of less than 700 cows be defined as nonpoint sources and regulated under 208, which says: ". . . identify as appropriate, agriculturally and silviculturally related nonpoint sources of pollution including runoff from manure disposal areas, and from land used for livestock and crop production, and set forth procedures and methods (including land use requirements) to control to the extent feasible such sources."

The authors of P.L. 92-500 anticipated that EPA would delegate to states and state agencies responsibility to identify and regulate to the extent feasible these many and varied situations within agriculture.

We urge this committee to advise EPA to resolve the agricultural point source question as we have outlined here. EPA should then develop a nonpoint program (208) which would delegate planning responsibility to the states and permit them the needed flexibility to develop practical nonpoint programs, responsive to local needs and situations.

We thank you for this opportunity to comment.

Senator NELSON. Thank you very much.

Our final witness is Mr. John Adams, the National Milk Producers Federation. Mr. Adams?

Mr. ADAMS. Thank you, Mr. Chairman. It is a pleasure to be here today to represent the National Milk Producers Federation and our environmental committee. The environmental committee of the federation met as recently as October 6 to address itself to the court order and to come up with some practical recommendations to deal with this current problem. We have submitted some recommendations which are attached to this statement to the Environmental Protection Agency for their consideration.

Essentially, the committee tried to take into consideration not only the substance and intent of the court order of June 10, but also the legislative history in regard to defining the term "concentrated animal feeding operation." The committee was also intent upon developing a practical basis for determining what constituted the degree of concentration of animals in smaller dairy animal confinement facilities which would necessitate a permit under NPDES, if any. The overwhelming concern, however, is the problem in terms of significant economic impact which this program will have on our industry if EPA is forced by court order or otherwise to extend the NPDES permit program to encompass many more thousands of smaller dairy confinement operations.

Based upon the results of our survey work within our membership in 1973 and, of course, on the basis of the economic impact work of the U.S. Department of Agriculture, we know that there will be a significant number of dairymen who will be forced out of business if they must comply with the stringent effluent limitation guideline standards of EPA.

Taking into consideration all of these factors, the committee has come up with a recommended definition for the term "concentrated animal feeding operation," which is contained on page 16 of the attached report. Essentially, this definition is predicated upon a definition of the term "best animal waste management practices."

What we are saying, in essence, is if the discharge, if any exists from a smaller dairy animal confinement facility, can be controlled through the application of "best animal waste management practices" which are consistent with presently developed animal waste management guidelines, then such dairy animal confinement facilities under 700 cows are not and should not be defined as a concentrated animal feeding operation, hence, not a point sources of discharge of such importance as to require regulation under the NPDES permit program.

We have provided a rationale in support of our definitions. These are recommended definitions. We are not married to the exact wording, but we hope such wording will provide some guidance for EPA. The definition of "best animal waste management practices" takes into account those technical factors relating to measurement of source load, the measurement of pollutant delivery and damage and, most importantly, the cost-effectiveness of source controls as have been previously described by other witnesses.

We do believe, however, that there is really no ultimate solution to the problem of finding economic relief from this legislation for the very smallest dairyman milking 30 to 40 cows unless the law itself is amended.

Given our present set of circumstances, however, we have attempted to provide EPA with a practical basis for resolving the current dilemma created by the court order. We believe our recommendations are based on a practical recognition of the fact that each individual dairy animal confinement facility and/or dairy farm presents a unique set of individual requirements due to different climatic conditions, availability of land, production and management systems and another very important factor—public health regulations. Administration of a practical pollution control program should incorporate the principle of "best animal waste management practices" which has been advanced by Dr. Raymond Loehr of Cornell University in his book, "Animal Waste Management Practices." Dr. Loehr provides some administrative guidance in terms of the program which is presently being implemented in the Province of Ontario, Canada.

I would like, Mr. Chairman, to read very briefly from Dr. Loehr's text in regard to the Canadian program. I think it is important to have this included in the record.

Dr. Loehr says, "Guidelines, rather than regulations, are common approaches to minimize pollution problems from agricultural operations. A reasonable approach has been established by the Province of Ontario, Canada which has developed a suggested code of practice for livestock buildings and disposal of animal waste. Good practice guidelines such as this one permit better approaches to be illustrated without placing them in the status of firm rules or regulations. Such an approach is advantageous while better treatment, disposal and management methods are being developed. The intent of the Ontario code of practice is to, (a) assist farmers in avoiding unnecessary and undesirable situations which could lead to disputes concerning pollution, (b) serve as guidelines for anyone concerned with the establishment of new livestock or poultry production units, (c) serve as guidelines for anyone concerned with making a major renovation or expansion of existing livestock or poultry enterprises, (d) be flexible enough in interpretation and application to cover specific cases which may exist or develop from time to time, and (e) serve as a basis for a sound considered plan of farm operation giving due regard to waste disposal management without being specific in design requirements.

Key measures in the code include the provisions of enough land area on which to dispose of waste, such waste storage capacity, and sufficient distance between livestock and poultry buildings and neighboring human dwellings. Finally, farmers can apply for certificates of approval which indicate that he is following accepted guidelines for environmental quality control.

I will not go into it all, but I would like to conclude by indicating that in practically every major livestock State in this country, either through the university extension service, the agriculture engineering department associated with the land grants institutions, soil conservation service or a committee charged with developing recommendations, alternative animal waste management guidelines have been developed. I have a sampling here from the States of Missouri, Wisconsin, New York, Oregon, Massachusetts, and North Carolina. I might add that the Subcommittee on Waste Management of the Farm Methods Committee of the International Association of Milk, Food and Environmental Sanitariance is currently attempting to pull together all of the livestock animal waste management guidelines that have been developed across the country.

Somehow, Mr. Chairman, it seems that we must recognize the real problem. We are dealing with many thousands of unique situations in which no uniform set of standards or regulations will be equitable or economical.

Thank you very much for this opportunity to present our views.

[The prepared statement of Mr. Adams follows:]

nmpf

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Patrick B. Healy
Secretary

The National Milk Producers Federation is a national farm commodity organization representing virtually all of the dairy farmer cooperatives and their dairy farmer members who serve this nation by producing and marketing milk in every state in the Union.

Since its inception in 1916, the Federation has actively participated in the development of dairy programs which are a part of a total system of agricultural law and policy which can appropriately be termed a national food policy.

The policies of the Federation are determined by its membership on a basis that assures participation from across the nation. The policy positions expressed by NMPF are thus the only nationwide expression of dairy farmers and their cooperatives on national public policy.

Statement of the National Milk Producers Federation

Before the

Senate Select Committee on Small Business

October 22, 1975

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John B. Adams, Director
Environmental and
Consumer Affairs

Mr. Chairman, my name is John Adams. I am Director of Environmental and Consumer Affairs for the National Milk Producers Federation. On behalf of the National Milk Producers Federation and our Environmental Committee, it is a distinct pleasure to be invited to testify before you this morning on the subject of the impact of Federal water pollution control regulations affecting smaller dairymen.

The Federation has formed a national Environmental Committee to deliberate on the issues before this Committee. As recently as October 6, the Environmental Committee met and developed a report to EPA containing recommendations for administration of the NPDES program regarding management of dairy farm wastes. A copy of this report is attached to my statement. I will attempt only to highlight the major thrust of the recommendations of our Environmental Committee which is composed of dairy farmers and experienced staff people from various cooperative member associations.

Our work on the EPA "feedlot" point source problem dates back to 1971 when the Congress was considering enactment of the Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500. At that time, we attempted to gain some clarification of the term "concentrated animal feeding operation" as contained in the definition of "point source" as defined in Section 502...(14) of the Act. We recognized that the Congress did not intend that the term, "concentrated animal feeding operation" be applied to smaller dairy animal confinement facilities which could not be considered as large commercial feedlot operations.

In offering comments to the EPA December 5, 1972 Federal Register proposal which dealt with the problem of acquiring information from owners and operators of point sources in the category of Agriculture (Short Form B), we requested EPA to clarify the term "concentrated animal feeding operation." We questioned then the meaning of this term in relation to the definition of "point source" as applied to specific dimensions and specific numbers of animal units. We questioned whether or not a concentrated animal feeding operation is a fenced-in feedlot, pasture or an entire farm. We pointed out to EPA, without much success, that without some clarification of the underlying term "concentrated animal feeding operation", it would be impossible for the individual owner or operator to be able to determine whether or not he was in fact a point source of discharge.

Judge Flannery, in his court Memorandum of March 24, 1975, recognized also that the term "concentrated animal feeding operation" has not been refined or elaborated on in terms of its application to the entire class of animal confinement facilities which EPA has chosen to exempt under the NPDES feedlot regulations. Quoting from the Memorandum of March 24, "the very nature of this term requires that agency discretion be exercised to determine what is encompassed within its scope." Judge Flannery further indicates that "it appears that Congress intended for the agency to determine, at least in the agricultural and silvicultural areas, which activities constitute point and nonpoint sources."

The basic intent of the Congress should not be lost in regard to the application of this legislation to smaller dairy animal confinement facilities under 700 cows. This is clearly pointed out by you, Mr. Chairman, in your letter to Russell Train dated October 9, 1973, and I quote from that letter, "The Congress clearly did not intend that small farm operations would be covered by the permit and effluent limitation program except when such farm was a 'point source' of pollution as described by Senator Muskie in his discussion of legislative intent on the floor of the Senate." (Mr. Nelson, Environmental Protection Agency Regulations, Congressional Record, October 23, 1973, S. 19465).

If one goes back to the colloquy between Senator Muskie and Senator Dole, it is clear that man-made drainage ditches, flushing systems and other such direct discharging devices would be included within the term "point source." It is also clear that natural runoff from confined livestock and poultry operations over the cut-off points of 1,000 beef cattle and 700 dairy cows were to be considered point sources, as well as direct discharges of waste to a stream that transverses the feedlot.

As you have previously pointed out, Mr. Chairman, the court has agreed with the Natural Resource Defense Council that EPA cannot define all concentrated animal feeding operations as point sources, then exempt small operations when the law specifically states that all point sources are to be controlled through the issuance of an NPDES permit.

It was, therefore, the goal and objective of our Environmental Committee to take into consideration not only the substance and intent of the court order of June 10, but also the legislative history in regard to defining the term "concentrated animal feeding operation." The Committee also was intent on developing a practical basis for determining what constituted a degree of "concentration" of animals in smaller dairy animal confinement facilities which would necessitate a permit under NPDES. The overwhelming concern, however, is the problem in terms of significant economic impact this program will have on our industry if EPA is forced by Court Order, or otherwise chooses to extend the NPDES program to encompass many more smaller dairymen under the 700-cow size category. Based upon the results of a Dairy Farm Animal Waste Questionnaire Survey we conducted among our membership in 1973, and on the basis of the economic impact work of the Economic Research Service of the U. S. Department of Agriculture, we believe that a very significant number of dairymen will be forced out of business if they must comply with stringent EPA effluent limitation guidelines standards under an NPDES permit program.

Taking into consideration all of these factors, the Committee has come up with a recommendation for EPA which recognizes that the term "concentrated animal feeding operations" should be defined on the basis of the method of abatement which can be satisfactorily applied at the local or state level to correct the discharge, if any direct discharge exists, from smaller dairy animal confinement facilities. In other words, the Committee has developed two definitions: A definition for "concentrated animal feeding operation" which is predicated on a definition of "best animal waste management practices." If in fact discharge can be controlled at the local and state level through application of "best animal waste management practices" which are consistent with presently developed animal waste management guidelines, then such dairy animal confinement facilities under 700 cows are not and should not be defined as a "concentrated animal feeding operation", hence, not point sources of discharge of such importance as to be regulated under an NPDES permit program. Our definition of the term "concentrated animal feeding operation" and "best animal waste management practices" are contained on page 16 of the attached report.

Beginning on page 17, we have provided a rationale in support of these two definitions and their adoption by EPA under any new proposed "feedlot" regulations. Under this rationale, we are suggesting that if animal waste runoff from dairy animal confinement facilities under 700 cows can be abated and/or controlled through application of "best animal waste management practices", then such operations should not be considered point sources of discharge requiring Federal NPDES permits. The term "best animal waste management practices" as defined by our Environmental Committee would take into account the technical factors relating to measurement of source-load, measurement of pollutant delivery and damage and cost/effectiveness of source controls as described by Murphy of Midwest Research Institute in a paper delivered recently at the "Agriculture and Clean Water Conference" in Kansas City, Missouri, April 3, 1975.

We believe that there is no real ultimate solution to the problem of finding economic relief from this legislation for the very smaller dairymen milking 30 to 40 cows, unless the law itself is amended. Given our present set of circumstances, however, we have attempted to provide EPA with a practical basis for resolving the current dilemma created by the Court Order.

We believe our recommendations are based upon a practical recognition of the fact that each individual dairy animal confinement facility and/or dairy farm presents a unique set of individual environmental requirements due to different climatic conditions, availability of land, production and management systems and public health regulations. Administration of a practical pollution control program should incorporate the principle of best animal waste management practices advanced by Dr. Raymond Loehr of Cornell University and might best be applied under a code of practice or waste management guideline as established by the province of Ontario, Canada.

Mr. Chairman, we appreciate the opportunity to present our views on this most important problem facing many dairy farmers.

Recommendations for Administration
# of NPDES in Regard
To Management
# of Dairy Farm Wastes

Report of Environmental Committee
National Milk Producers Federation

October 6, 1975

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Introduction

In the recent case of NRDC v. Train (7 ERC 1881, March 24, 1975), it was held that EPA regulations exempting "point sources" in the agriculture, separate storm sewer and silviculture categories from the permit requirements of the National Pollutant Discharge Elimination System (NPDES) was not authorized by the Federal Water Pollution Control Act Amendments of 1972, 86 Stat. 816, 33 U.S.C. § 1251 *et seq*. The decision was predicated on a finding that nothing in the Act authorizes EPA to exempt any class of "point sources", including all point sources in the "concentrated animal feeding operation" category, from the permit requirements of Section 402 of the Act.

In a final judgment (Civil Action No. 1629-73) filed on June 10, 1975, United States District Judge Thomas Flannery ordered that EPA publish proposed regulations extending the NPDES permit system to include all "point sources" in the concentrated animal feeding operation and separate storm sewer categories by November 10, 1975. The order further requires EPA to promulgate final regulations for all point sources in the concentrated animal feeding operation and separate storm sewer categories by March 10, 1975.

In response to the recent court decision and following the recent regional meetings conducted by EPA, the Environmental Committee of the National Milk Producers Federation convened on October 6, 1975 to consider the appropriate course of direction for EPA to follow in drafting proposed new "feedlot" regulations covering dairy animal confinement facilities.

This report contains background information relating to the environmental policy of the Federation, past recommendations of the Federation in response to EPA "feedlot" rule-making efforts, and our current recommendations to EPA for meeting the requirements of the recent court order in regard to "point sources" in the category and class of dairy animal confinement facilities.

Respectfully Submitted,

Lester Jones

Lester Jones, Chairman

ENVIRONMENTAL COMMITTEE

1975

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Glenn Lake, Ex Officio
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Committee Secretary: John B. Adams

I. The National Milk Producers Federation

The National Milk Producers Federation is a farm commodity organization representing nearly all of the several hundred dairy marketing cooperatives serving this nation.

Cooperatives market a substantial percentage of the milk produced in the United States, making the Federation a most effective voice on national issues for dairy cooperatives and their dairy farmer members.

Through a Board of Directors named by member associations, an Executive Committee selected from the Board and various committees and task forces, subordinate to the Executive Committee, the Federation provides an organizational basis for the development of policy positions and long-range objectives sought by dairy farmers and their cooperatives. Federation meetings and publications offer a forum for further development and implementation of the policies and programs determined necessary by the membership. Member associations participate in this process and fund the Federation through dues payments, making the Federation solely responsible to its member cooperatives and their farmer members.

The Federation encourages and works closely with its member associations as these policies and objectives are presented to the Congress and executive agencies in the federal government which administer programs affecting agriculture. By serving as a liaison between Congress, government agencies, news media, consumers, and member associations, the Federation creates and maintains an atmosphere in law and in regulation which allows dairy farmers and their cooperatives to prosper.

II. Current Federation Environmental Policy

The Federation, through the Environmental Committee and with appropriate consultation with EPA, will develop and recommend a practical strategy for implementing the June 10, 1975 Court Order in such a way as to have the least economic impact upon dairymen in order to permit them to continue production of milk at reasonable cost.

III. Background

A. Basis of Present Law

The ultimate water quality goals sought influence the strategies of legal control of water pollution. There are basically two fundamental philosophies which characterize the approaches to water pollution control: technological and ecological.

The technological approach is the traditional approach which was embodied in the U. S. Water Quality Act of 1965. It is based upon the concept of the "assimilative capacity" of waters for pollutants. "Assimilative capacity" is defined in terms of uses to which a stream is to be put by man; e.g., irrigation, industrial processing, swimming and boating, drinking-water supply, maintenance of sport fishing, support of wildlife, etc.

The ecological approach is the new approach and is embodied in the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500) passed by Congress on October 8, 1972. It is based upon the concept of "end of pipe" discharge or "effluent limitation" of pollutants entering any waterway. The ecological viewpoint seeks the complete restoration and maintenance of the physical, chemical, and biological integrity of waterways so that water will approach a pristine state and therefore be clean enough for all man's desired use.

B. Requirements of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500)

This lengthy and complicated Act has the stated objective of restoring and maintaining the integrity of the nation's waters. See FWPCA § 101(a), 33 U.S.C. §1251(a) (Supp. III, 1973). In order to accomplish this goal, the discharge of pollutants into the navigable waters of the United States is to be eliminated by 1985. In the interim, a number of mechanisms and deadlines are established for regulating discharges. Section 301(a) of the Act provides that, with only a few exceptions, any discharge of pollutants by any person is unlawful. Id. § 1311(a). One of the exceptions is for discharges made under a permit issued by the Administrator of EPA pursuant to the National Pollutant Discharge Elimination System (NPDES) established by section 402 of the Act. Id. § 1342. That section provides in pertinent part:

> Sec. 402.(a)(1)...the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 301(a)..."

See id. § 1342(a)(1). Under such a permit the discharge must meet the effluent standards established by the Act.

The term discharge of pollutants is defined in section 502(12) of the Act to mean any addition of any pollutant to the navigable waters from any point source. See id. § 1362(12). The term point source is defined as follows:

> Sec. 502. ... (14) The term 'point source' means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

See id. § 1362(14).

C. Federation response to December 5, 1972 -- Proposed Forms and Guidelines for Acquisition of Information from Owners and Operators of Point Sources (Federal Register, Vol. 37, No. 234, p. 25898

The Administrator's authority to gather and disseminate information is granted not only by Section 304(h)(1) of the Act as stated in the notice, but also by Section 304(e) dealing with non-point sources such as field runoff. Separate notice for the two subjects should be used; but if Short Form B is to be used as a point source permit application form and to gather information to evaluate the nature and extent of non-point sources of runoff, then the notice should so state the two subjects and cite

Section 304(e). There should be a clear delineation between the two subjects and two separate forms should be used: one for general information gathering for wide circulation covering non-point sources; and another for more limited distribution and which applies solely to point sources.

General Instructions, Requirements, and Procedures

As presently stated, a person discharging pollutants into a waterway from a point source must complete and file a form. The instructions further state that one who receives a form, but determines that he is not required to obtain a permit, should file the form anyway. The basis for distribution of the form is not clear, and we submit that if a person does not get a form and cannot conclude in his own mind that he is discharging from a point source, there will be very little response to the forms, thus defeating the purpose of the program. Therefore, separate forms are more appropriate.

Definition

The definition of the term "point source" is raising some questions and causing more confusion than any other subject in the proposal insofar as Short Form B is concerned. As stated, the definition merely adopts that of Section 504(14) of the Act without clarification. What is needed is clarification of the underlying definition. Specifically, what is a "concentrated animal feeding operation?" Is it limited to specific dimensions and a specific number of animal units? A fenced-in feedlot? A pasture? Or an entire farm? Without a better definition, the distribution of the form will continue to cause great confusion. It must be clear to the individual owner or operator of a "concentrated animal feeding operation" whether he must complete and submit Short Form B along with the required $10.00 registration fee.

We oppose the requirement for a $10.00 application fee. No fee should be required to accompany an application form. Considerable expense would also be involved if EPA were to have to return monies to those determined not to require a permit.

We would suggest that the term "concentrated animal feeding operation" be considered within the context and meaning of the following definition:

> "The term 'concentrated animal feeding operation' refers to any area of land specifically devoted to confined feeding and/or holding operation less than the area of land necessary for the soil assimilation of animal waste generated by the animals on such land without violating this Act. This shall not include areas normally used for pasture or crops."

Most dairy operations would not be considered "concentrated animal feeding operations" because they normally would not be discharging through a point source outlet. Many confined dairy housing systems, for example, are totally enclosed structures from which manure is removed and recycled to the soil. It is normal practice to transfer animal wastes generated from dairy operations at the site of animal confinement to land where it becomes diffused and dispersed. Adequate land is usually available for spreading manure from such operations without creating runoff problems. Once animal wastes are transferred from the site of animal confinement to the land itself, consistent with the public health requirements for Grade "A" milk production, then the potential for point source discharge has been greatly diminished or eliminated. This is a continuing practice and is repeated on a frequent basis, very often daily.

As a result of these practices, a large number of dairy farms are operating with no point source discharge.

It is for the above reasons that we strongly urge the formulation of a reasonable and practically enforceable definition of a "concentrated animal feeding operation."

The National Milk Producers Federation represents available sources of expertise which can be assembled to assist in providing the agency with recommendations on this most important question. The need for clarification of this subject cannot be overemphasized.

D. Federation response to May 3, 1973 --National Pollutant Discharge Elimination System [40 CFR, Parts 124, 125], Notice of Proposed Form and Proposed Rule-Making Regarding Agricultural and Silvicultural Activities (Federal Register, Vol. 38, No. 85, p. 234)

In regard to Notice of Proposed Form and Proposed Rule-Making Regarding Agricultural and Silvicultural Activities, the Federation wishes to support the specific proposal of the Environmental Protection Agency to establish reasonable categories and classes of agricultural point sources for exclusion from requirements of the National Pollutant Discharge Elimination System.

While the Federation has considerable reservation over the merits of the permit program in terms of the impact such a program might have on increasing the cost of food to consumers, we nevertheless support the Agency's efforts to provide a reasonable and practical basis for administering such a program. It can only be workable and manageable if it is directed toward the control of larger and potentially more significant sources of pollution.

We strongly urge the Administrator to continue to refrain from imposing the requirements of the National Pollutant Discharge Elimination System upon smaller, more insignificant sources of agricultural discharge. The National Pollutant Discharge Elimination System program should continue to be a reasonable and workable program encompassing requirements that are practicably enforceable. For dairy facilities, we urge adoption of the proposed cutoff level of 700 more mature dairy cattle. We also support the proposal that the figure of 700 head include milkers, pregnant heifers, and dry mature cows in confinement, but not calves or younger animals.

E. Final EPA "Feedlot" Regulation, July 5, 1973 -- Title 40 - Protection of Environment, Chapter 1 -- Environmental Protection Agency, Part 124 - State Program Elements Necessary for Participation in the National Pollutant Discharge Elimination System; Part 125 - National Pollutant Discharge Elimination System; Form and Guidelines Regarding Agricultural and Silvicultural Activities (Federal Register, Vol. 38, No. 128, p. 18000)

In 1973 the Administrator of EPA promulgated regulations which exempted certain sources from the NPDES permit requirements. These included discharges from storm sewers composed entirely of storm runoff uncontaminated by industrial or commercial activity; from relatively small animal confinement facilities; from silvicultural activities; and irrigation return flow from point sources where the flow is from less than 3000 acres. See 40 C.F.R. §§ 125.4(f), (j) (1974). 2/ These exemptions were only from the requirement to apply for a permit. They did not waive the applicable effluent limitations or other standards established under the Act. 38 Fed. Reg. 18001-02 (1973). Additionally, the exemption does not extend to discharges from activities which the Administrator of EPA or the director of a state water pollution agency identifies as a significant contributor of pollution. 40 C.F.R. §§ 124.11(h)(5), 125.4(j)(5) (1974).

Plaintiff NRDC challenged these regulations and asked for and was granted a declaratory judgment that the Administrator's action excluding these categories of sources from the NPDES permit program is unlawful under both the Federal Water Pollution Control Act and section 13 of the Rivers and Harbors Act of 1899, 30 Stat. 1152, 33 U.S.C. § 407 (1970). 3/

2/ The regulations also allow a state administering its own permit program for discharges pursuant to section 402(b) to exclude the same sources from its individual permit programs. 40 C.F.R. 124.11(f),(h) (1974).

3/ Section 13 is sometimes referred to as the Refuse Act of 1899. United States v. Pennsylvania Industrial Chemical Corp., 411 U.S. 655, 658 n. 5 (1973).

F. Federation Response to September 7, 1973 -- Proposed Effluent Limitations Guidelines for Existing Sources and Standards of Performance and Pretreatment Standards for New Sources [40 CFR, Part 412] Feedlots Category (*Federal Register*, Vol. 38, No. 173, p. 24466)

The proposed effluent guideline limitation standards as published in the *Federal Register* of September 7, 1973 will pose a significant economic impact on smaller dairy feedlot operators under 700 cows. The cost of compliance for the smallest dairy herds of 100 cows or less will be prohibitive and force many more dairymen out of business.

The economic analysis developed in this brief (Table 4) and results of the Federation dairy farm waste questionnaire survey indicated that nearly 50 percent of all dairymen will elect to leave dairy farming if they are faced with unreasonable costs of complying with a 10-year, 24-hour runoff standard by July 1, 1977. Faced with a severe economic cost-price squeeze, dairymen are not in a financial position, at the present or in the foreseeable future, to bear the cost impact posed by the proposed standards.

The Environmental Committee of the Federation therefore urges the Environmental Protection Agency to give very serious consideration to the recommendations contained in this brief.

IV Proper Course of Direction for EPA

A). The Act, Legislative History and NRDC Position

From a careful review of the legislative history of Public Law 92-500, it is clear that Congress intended that discharges from agricultural activities should be dealt with primarily under planning and management programs (Section 208) authorized for non-point sources.[1]

During debate of the law on the floor of the Senate, Senator Muskie in a colloquy with Senator Dole clearly established the criteria which EPA should follow in determining whether feedlots are "point sources" of discharge as follows:

> "If a man-made drainage ditch, flushing system or other such device is involved and if any measurable waste results and is discharged into water, it is considered a 'point source'. Natural run-off from confined livestock and poultry operations are not considered a 'point source' unless the following concentrations of animals are exceeded: 1,000 beef cattle, 700 dairy cows, 290,000 broiler chickens, 180,000 laying hens, 55,000 turkeys, 4,500 slaughter hogs; 35,000 feeder pigs, 12,000 sheep or lambs, 145,000 ducks. Any feedlot operations which result in the direct discharge of waste into a stream that tranverses the feedlot are considered point sources without regard to number of animals involved."[2]

According to a letter addressed to the Honorable Russel Train from Senator Nelson dated October 9, 1973, "the Congress clearly did not intend that small farm operations would be covered by the permit and effluent limitation program except when such farm was a "point source" of pollution as described by Senator Muskie in his discussion of legislative intent on the floor of the Senate (Legislative History, Vol. II, pp. 1298-99)."[3]

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1. EPA Rules and Regulations, Part 124 & 125, Form and Guidelines Regarding Agricultural and Silviculture Activities, Federal Register, Vol. 38, No. 128, July 5, 1975, p. 18000.
2. Mr. Nelson, Environmental Protection Agency Regulations, Congressional Record, October 23, 1973, S. 19465.
3. Ibid., p. S. 19465

The Court has agreed with NRDC that EPA cannot define all concentrated animal feeding operations as "point sources" and then exclude small operations when the law specifically states that all "point sources" are to be controlled through the issuance of a permit and compliance with published effluent limitation guidelines.

It appears that NRDC is more concerned with the proper implementation of the law rather than intent. According to Senator Nelson, "the NRDC agrees that there should be a numerical cutoff determined with public hearings that distinguishes a small farmer-feeder operation, a "non-point source," from a large "concentrated animal feeding operation" that is a "point source." The public interest law firm does not specifically object to the feedlot point source criteria established by Senator Muskie, rather they object to the way EPA has drafted its regulations."[4]

Indeed, NRDC was granted an Order (Civil Action No. 1629-73 -- Filed June 10, 1975) providing clarification of Memorandum Opinion of March 24, 1975 to :

(1) On Page 2 of the court's March 24, 1975 Memorandum, the following sentence is deleted:

> Thus, all non-point sources are excluded from the effluent limitations and are subject only to analysis and study under Section 304(e). See Id. 1314(e).
>
> In its place the following two sentences are substituted:
>
> Thus, all non-point sources are excluded from the effluent limitations and the NPDES program. They are not subject to the stringent control scheme established for point sources.

(2) On pages 9 - 10 of the same Memoranium the following sentences are deleted:

> Clearly it would have done this, just as it did for all non-point sources for which only identification and evaluation are required. The Act does seem to indicate that at least some agricultural and silvicultural sources

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[4] Ibid, p. S. 19465

are apparently of a non-point nature and the Administrator need only identify and develop methods to control them.

The following two sentences are substituted:

Clearly it would have done this, just as it did for all non-point sources. The Act does seem to indicate that at least some agricultural and silvicultural sources are apparently of a non-point nature and are thus not subject to the more detailed requirements applicable to point sources.

B). Procedure Followed By EPA In Establishing NPDES and Effluent Limitation Guidelines

The July 5, 1973 regulations developed the 700 dairy cow cutoff point for dairy farm operations that were required to file for an NPDES permit.

On September 7, 1973, EPA proposed effluent limitation guidelines for "point sources" under Section 301 of the Act. These draft effluent regulations initially proposed that all farmers, regardless of size would have to meet a zero discharge - total confinement of runoff by 1985. Seven days before the public comment time expired, EPA announced a dramatic change in policy, i.e., the farm operations that were exempt from the NPDES regulations would be also exempt from the effluent limitation guideline program. This policy would appear logical if it were not for the fact that the July 5 permit program regulations quite clearly state that smaller operations would be required to apply for a permit if identified as a "significant contributor of pollution", hence no real exemption. This fact was obviously not recognized by the Court in NRDC v. Train. In the court's view, the only issue was whether the Act permitted the Administrator the latitude to exempt entire classes of point sources from the NPDES permit requirements. The court held that it did not.

After the July 5, 1973 NPDES regulations applying primarily to dairy operations with 700 or more milking cows went into effect, Region V, EPA, in Chicago published guidelines to assist individual producers in determining whether a permit application would have to be filed. The term "significant contributor of pollution" was never clearly defined, but EPA listed three questions which a producer could use as a guideline in determining whether a permit application was necessary:

(1) Do you, or have you for 30 days or more during the previous 12 months held in a confined feedlot more than 1,000 animal units (700 mature dairy cattle)?

(2) Is the feedlot barren of vegetative cover?

(3) Do you presently discharge any washwater or overflow drinking water from the feedlot to any waters of the United States or after an extremely large rain is there any runoff leaving the feedlot and reaching any surface waters?

EPA indicated that if the producer answered "yes" to all of the three questions, he "should obtain a copy of 'Short Form B - Agriculture' and apply for a NPDES permit." Failure to apply immediately would constitute a "violation of the Federal Water Pollution Control Act (Title 33 § 1251 et. seq.)" and the producer would be "subject to civil and criminal penalties of up to $25,000."

It would appear that any producer answering "yes" to all three questions above would definitely be considered by EPA to be a "point source" subject to NPDES requirements and effluent limitation retention requirements pursuant to Sections 402 and 301 of the Act, respectively. It would also appear logical to assume that if the producer answered "yes" to only questions 2 and 3, EPA might have the additional information necessary to justify an on-sight inspection to determine such a producer to be a "significant contributor of pollution," hence also a "point source" subject to the NPDES program pursuant to the July 5, 1973 regulations. An on-sight inspection might not even be necessary, if the EPA so determined that all producers answering questions 2 and 3 were in fact "significant contributors of pollution." The July 5, 1973 regulations provide for such latitude of interpretation; i.e., "the Environmental Protection Agency or the water pollution control agency for the State or interstate area may identify the source as not included within the exclusion." "If a point source is so identified, the owner or operator must comply with all NPDES filing and application requirements."

The effluent limitation requirement regulations do indeed cover "housed lot" dairy facilities including 'stall barn' operations with 'milkroom' and 'free stall barn' facilities with 'milking centers'." Obviously, all type operations are covered to provide effluent limitation requirements for any size operation which might be so designated as a "significant contributor of pollution" and hence a "point source" under the July 5, 1973 NPDES regulations. As stated previously, however, this was not the issue with which the Court objected.

Obviously, the effect of the Court Order would be to negate the need entirely for the identified point source provision (124.11(h)(5) of the July 5, 1973 regulations.

C). Basis For Modification of Regulations

From the preceding discussion above, it appears that the best solution to meeting the requirements of the court order is to provide a more realistic definition of "point source" in regard to the discharge from relatively small dairy animal milking confinement facilities. If a workable and realistic definition of "point source" can be developed, we may be able to achieve what we believe to be the intent of the Congress; i.e., that the exempted sources were not even intended to be "point sources" under the Act and, therefore, should be exempt from the permit requirements. The Court did conclude that "the power to define point and non-point sources is vested with EPA and should be reviewed by the court only after opportunity for full agency review and examination."

In order to proceed to develop a more workable and realistic definition of "point source", we must remember that the Act (Sec. 502...(14)) defines the term "point source" as follows: The term point source means any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well discrete fissure, container, rolling stock, concentrated animal feeding operations, or vessel or other floating craft, from which pollutants are or may be discharged.

Quoting from the *Court Memorandum* of March 24, 1975, page 15, "The court is not convinced that the permit program would be unmanageable without the exemptions granted by the Administrator since there do appear to be alternatives available to EPA for reducing the permit workload. One such alternative should be to refine and elaborate on terms such as "concentrated animal feeding operation." The very nature of this term requires that agency discretion be exercised to determine what is encompassed within its scope. Moreover, it appears that Congress intended for the agency to determine, at least in the agricultural and silvicultural areas, which activities constitute point and nonpoint sources. Senator Muskie, one of the primary sponsors of the Senate bill, indicated during debate that it would be EPA's obligation to clarify the terms point and nonpoint source. An exchange with Senator Dole is informative:

> "Mr. DOLE. Another question of real concern to many farmers, stockmen and others in agriculture involves the terms 'point source' and 'nonpoint source.'
>
> * * *
>
> My question is: Simply, to what sources of guidance are we to look for further clarification of the terms 'point source' and 'nonpoint source' -- especially as related to agriculture?
>
> Mr. MUSKIE. Guidance with respect to the identification of 'point source' and 'nonpoint source', especially as related to agriculture, will be provided in regulations and guidelines of the Administrator..."

117 Cong. Rec. 38816 (1971), *reprinted in* Legislative History, *supra* at 1298-99. Plaintiff argues that the Administrator has failed to meet this obligation to draw the line by regulation or otherwise between point and nonpoint sources in the areas exempted by the challenged regulations. The court agrees that if EPA had carried out its duties as directed, carefully distinguishing point and nonpoint sources and employing techniques such as those already used for mining activities, the scope of and burdens presented by the permit program would be considerably less than

projected by EPA. 5/

NRDC does not contend that every farm ditch, water bar, or culvert on a logging road is properly meant to be a point source under the Act. Moreover, NRDC points out that, while all sources which are eventually defined as point sources should be regulated under an appropriate permit program, the Administrator would have wide latitude to rank categories and sub-categories of point sources of different importance and treat them differently within a permit program. He would also have substantial discretion to use administrative devices, such as area permits, to make EPA's burden manageable. Admittedly, some sources, such as irrigation return flows and storm sewers, might pose special difficulties; nevertheless, such difficulties must not stand in the way of Congress' mandate that a comprehensive permit program covering all point sources be established.

In light of the foregoing, the court holds that the Administrator cannot lawfully exempt point sources discharging pollutants from regulation under NPDES. It appearing that no genuine issue of material fact exists, the court will therefore grant plaintiff's motion for summary judgment and will deny the motions to dismiss or for summary judgment filed by defendants and defendants-intervenors. A judgment will be entered after an opportunity for comment on its form by the parties. An appropriate Order accompanies this Memorandum.

5/ This conclusion is supported by the report of the House Committee on Government Operations which concluded that EPA had grossly exaggerated the administrative problem and misled the public and the court about is administrative problems regarding feedlots. The Committee stated:

> "In raising the management problem, EPA has clouded the pollution question by trying to define the choice as being either a permit system for agricultural point sources which covers every 'farm with one animal,' or the minisystem adopted by EPA last July which excludes many polluting feedlots with a large number of animals. The first borders on the ridiculous, and the second is based on expediency."

Feedlot Report, supra note 5, at 27.

V. Recommendations to EPA

A. Definition of Concentrated Animal Feeding Operation

For purposes of meeting the requirements of the recent Court Order, discharges from dairy animal confinement facilities should be regulated under a definition of "concentrated animal feeding operation" to be defined as follows:

The term 'concentrated animal feeding operation' is an animal confinement facility containing 700 or more mature dairy cows, or one which contains sufficient numbers of animal units (mature dairy cows) so as to result in the direct discharge of process wastewater to a navigable waterway, and/or is one which is adjacent to a navigable waterway so as to preclude the application of 'best animal waste management practices' to prevent such discharge.

B. Definition of Best Animal Waste Management Practices

In addition, we recommend that a definition of "best animal waste management practices" be incorporated into the revised NPDES dairy animal confinement regulations. It is suggested that the term "best animal waste management practices" be defined as follows:

> The term "best animal waste management practices" shall include analysis of planning, economic, legal, labor and technical constraints on the individual dairy animal confinement facility, and shall also develop for such a facility the most economical and equitable combination of animal waste management alternatives which are consistent with currently available animal waste management guidelines recommended for the area in which such a facility is located.

(C) Rationale for Recommended Definitions

In previous comments to the EPA (see P. 4), we have emphasized and the Court has agreed that the term "concentrated animal feeding operation" must be clarified as the underlying definition of the term "point source" as related to "feedlots". We prefer that the term "dairy animal confinement facility" be utilized to describe the wide variation in the structure of milking cow facilities being utilized to produce milk in the United States. In the great majority of cases, with dairy confinement facilities containing less than 700 mature dairy cows, the term "feedlot" is not relevant.

In order to arrive at a definition which shall meet the requirements of the Court Order and still provide a practical basis for defining what is truly a "point source" of dairy farm discharge as intended by Congress, the Environmental Committee has developed the term "best animal waste management practices" as the basic test for determining if the concentration of discharge exhibited by any given individual dairy animal confinement facility is "concentrated" enough to be considered a point source of discharge subject to an NPDES permit. If the discharge can be controlled and/or abatted through the application of "best animal waste management practices" as defined, then such a dairy animal confinement facility, regardless of size, is not "concentrated" to such a degree as to require abatement through the application of point source abatement technology (Effluent Limitation Guidelines) subject to the NPDES permit program.

In effect, if the conditions of concentration elucidated by our definition of "concentrated animal feeding operation" are not met, the abatement technology "best animal waste management practices" becomes a practical solution to a problem which can be categorized as non-point source. Therefore, we are suggesting that abatement of animal waste runoff from non-concentrated dairy animal confinement facilities must be achieved through application of "best animal waste management practices" which takes into account the technical factors relating to measurement of source load, measurement of pollutant delivery and damage, and cost/effectiveness of source controls as described by Murphy[6]. Of practical consideration for dairy animal confinement facilities is the loading functions for animal wastes applied to land. Practices and guidelines for runoff control from dairy animal confinement facilities must be designed on an individual basis so that variations in climatic conditions, availability of land, production and management systems and public health regulations for production of Grade A milk can be recognized. To date, the only practical basis for management of dairy animal wastes is recycling such wastes to land. At certain times of the year, land may be unsuitable to receive the application necessary unless a total animal waste management plan is developed as defined by the Environmental Committee under the term "best animal waste management practices". Such practices or guidelines are cited by Loehr[7]. We believe that the practical solution to discharge and runoff from smaller dairy animal confinement facilities under 700 cows will ultimately require the application of best animal waste management practices referenced by Loehr in conjunction with the Ontario Code of Practice established by the province of Ontario, Canada[8].

6/ The Technical Basis for Agricultural Water Pollution Control, by Thomas A. Murphy, presented at the MRI/EPA sponsored "Agricultural and Clean Water" conference in Kansas City, Missouri, April 3, 1975; Mid-West Research Institute, 425 Volker Blvd., Kansas City, Missouri 64110.

7/ Loehr, Raymond C., Agricultural Waste Management, Academic Press, 1974, Chapter 13, "Management", p. 455-460.

8/ The Federation has written to Herbert W. Biggs, Deputy Minister, Ministry of the Environment, Ottawa, Ontario, for copies of the Ontario Code of Animal Waste Practice Guidelines which are designed to assist farmers in avoiding unnecessary and undesirable situations which confront pollution control for smaller size animal confinement operations.

Last, but certainly not least, the cost effectiveness of control of dairy animal waste must be considered. An economic impact study of the effect of controlling surface water runoff from U. S. dairy farms has been prepared by the U. S. Department of Agriculture[9].

The estimated total additional investment per cow for controlling surface water runoff in the northern dairy regions of the country for herd sizes of 30 and 80 cows, respectively, assuming a holding pond capacity capable of storing: 100 percent of runoff from three weeks of normal rainfall during the highest rainfall period; plus three weeks of washwater; plus runoff from a 10-year, 24-hour storm event amounted to $69 per cow and $34 per cow. According to a 1973 Dairy Farm Waste Questionnaire Survey conducted by the Federation of our membership (see attached copy of Feedlot Effluent Limitation Guidelines, comments to EPA, September 7, 1973 -- Tables IV and V), we estimated the cost of runoff control to be $164.10 per cow and $67.61 per cow for the 35 and 100 cow herd size categories in EPA Region V. According to Table V of our comments, the member respondents action choices for investment alternatives indicated that when investment per cow reached the range of $26 to $50, nearly 50% (48.6%) of respondents indicated they would discontinue dairy operations. According to the USDA study, the dairy industry would have to invest more than $312 million to comply with the proposed pollution control guidelines of September 7, 1973. This is about $500 per farm, or $25 per cow for the whole industry. This investment represents an overhead cost of operation

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9/ Based on a report to be published by the Economic Research Service, U.S.D.A., prepared by Boyd M. Buxton and Stephen J. Ziegler, Agricultural Economist, Economic Research Service and Research Assistant, Department of Agricultural and Applied Economics, University of Minnesota (see attached copy).

which cannot be recovered unless such additional costs can be passed on to consumers. The USDA report further concludes that the required investment would not be distributed evenly among all farms. It would fall on 40% of the farms, many of which are smaller operations.

The above economic impact work in the dairy animal confinement industry indicates very clearly that smaller dairy farmers and dairymen cannot incur the costs of meeting the effluent limitation guideline standards proposed by EPA without significant economic impact which will result in substantial numbers of dairymen leaving the business. Such a development is particularly significant when USDA projects that dairy farms ranging in size from 20 to 99 cows will produce nearly 70% of the total supply of milk and larger confinement facilities with 100 cows or more will produce 27% of the projected 1976 supply of milk. Therefore, we submit that our recommendations will provide a practical basis for determining "concentrations" of dairy animal confinement discharge which must be categorized as "point source" as opposed to those which can achieve a workable and practical basis for abatement of pollution control runoff problems under the concept of "best animal waste management practices" as defined by our Environmental Committee.

D) General Goals and Objectives for Regulation of Dairy Animal Confinement Facilities

The permit program should be administered with the following goals and objectives in mind:

1) Dairy herd operations under 700 cows should not be considered gross sources of pollution, but should be provided the opportunity to manage their animal wastes in such a manner as to reach a balance between agricultural production of milk, profit, and environmental quality objectives consistent with recognized animal waste management practices.

2) Management should be the proper analysis of planning, economic, legal, labor and technical constraints on any given dairy production system.

3) Animal waste management guidelines developed by the states should be recognized as providing the equivalent of best available technology economically achievable.

4) The Province of Ontario, Canada has adopted a suggested code of practice for livestock buildings and management of animal wastes. (Adoption of good animal waste management practices guidelines provide the flexibility needed to continue development of better practices for treatment, disposal, and management methods without adopting firm rules and regulations.)

5) "Codes or guidelines are preferable to governmental regulations since there is danger that regulations will be applied uniformly to producers despite the wide variety of measures needed to properly protect the environment and wide differences between agricultural production operations." "Codes or guidelines can be changed more easily than regulations when better practices become available." (Loehr, Agr. Waste Mgmt., p. 460)

6) The permit program should not be applied to general agriculture runoff. Administratively, the permit program (NPDES) should be reserved for only those larger commercial livestock operations which exhibit a gross pollution potential.

(7) Each dairy production confinement facility where cows are milked and fed presents a different problem in regard to the mix of alternative solutions which will provide an acceptable level of environmental quality or an economically achievable basis. Therefore, a separate animal waste management system must be developed for each dairy operation which will account for differing effects of management, legal and public health constraints, and level of technology which can be economically applied given the level of income and resources available to the dairymen. (The total agricultural-dairy operation should be considered in developing suitable waste management systems).

(8) At the national level, the National Milk Producers Federation seeks a satisfactory pollution control program which will provide dairymen with the opportunity to achieve an adequate profit and adequate environmental control with the limited resources available to him.

Senator **Nelson**. Did I understand that all or most of you agreed with the dialogue describing legislative intent between Senators Muskie and Dole? Part of that dialogue, you will recall, involved the following question: Do you agree that any feed lot that has a collection system that results in the pipe discharging wastes into a stream be defined as a point source of pollution under the act and be required to file for NPDES permit and comply with the effluent guidelines when they are promulgated?

Mr. **Hawley**. Yes.

Mr. **Adams**. Generally, yes.

Mr. **Hovenden**. I would agree with them. I do not know of anybody that has a pipe that runs it out in the river.

Senator **Nelson**. We use the word pipe, but I suppose if you had a trough or a manmade structure to guide it into a river course that also would be covered.

Mr. **Frazier**. As a practical matter, Mr. Chairman, don't you think the thrust of that record is along the lines that producers should be expected to respond to some authority in the control of effluents if the unit is, we will say, adjoining and close to a stream or lake that constitutes a city water supply or directly involved in release of pollutants in quantity into one of our major waterways?

It appeals to me that way rather than as a matter of close definition.

Senator **Nelson**. Yes. But the colloquy did cover that specific question I raised also, as well as the summary that you just made.

Mr. **Hovenden**. Senator, that language came out of the 1899 Refuse Act. Before we had this system we had to apply to the Corp of Engineers and we applied all of our feedlots under the Refuse Act, but we were all exempt because of the way that the act was worded. It just did not apply. We did not put it in the stream and run it out anywhere, or a pipe

Mr. **Hawley**. Senator, to add one other thing, the word "exempt" may create an erroneous opinion. I do not think any of us are advocating that agriculture be exempted from 92-500. We just do not want the point source program overloaded and distorted by inclusion of an estimated one-half million individual permits.

Senator **Nelson**. And some operations no matter what their number is may not be point sources no matter how large and some operations no matter the fact that they are very small may be a point source.

Mr. **Hawley**. We get down to the judgement considerations rather than to the flat arbitrary numbers game.

Senator **Nelson**. Thank you very much, gentlemen, for your very useful testimony. The committee appreciates your taking the time to come today.

The next panel will be James Crowley, professor of dairy science, University of Wisconsin; Robert E. Graves, professor of agricultural engineering, College of Agriculture and Life Science, University of Wisconsin; Paul P. Didier, chief of industrial wastewater section, Wisconsin Department of National Resources; and Richard E. Cohen, research analyst, Wisconsin Department of Agriculture.

A PANEL ON UNIVERSITY AND STATE AGENCIES IN THE STATE OF WISCONSIN CONSISTING OF: JAMES W. CROWLEY, PROFESSOR OF DAIRY SCIENCE, UNIVERSITY OF WISCONSIN; ROBERT E. GRAVES, PROFESSOR OF AGRICULTURAL ENGINEERING, COLLEGE OF AGRICULTURE AND LIFE SCIENCES, UNIVERSITY OF WISCONSIN; PAUL P. DIDIER, CHIEF OF INDUSTRIAL WASTEWATER SECTION, WISCONSIN DEPARTMENT OF NATIONAL RESOURCES; AND RICHARD E. COHEN, RESEARCH ANALYST, WISCONSIN DEPARTMENT OF AGRICULTURE

Senator NELSON. Gentlemen, the committee is very pleased to have you here today. When you speak, be sure to identify yourselves for the reporter so your statements will be correctly attributed in the record.

You have heard the previous testimony. Your statements will all be printed in the record If you can, summarize your most significant points so that we can complete the hearings on time; we would appreciate it

Mr. CROWLEY. I am Jim Crowley, extension dairyman, University of Wisconsin. I am very glad to be here but actually I am scared to death, feeling as though I would be much more comfortable back home with an audience I am more used to speaking with.

We decided in our procedure here today that I would make an opening statement concerning our general concern and then each of the panel members will present a summary of their statement as representatives of the different agencies. Then we would welcome any questions you have and I shall direct these to the agency that seems most appropriate.

In making an opening remark, I would emphasize that there is a problem. The problem that I have heard most in visiting with farmers in Wisconsin is the fear, the uncertainty, the confusion, that currently exists among the farmers as to what is going to happen in this whole area of waste control. There is uncertainty, a lack of trust, a lack of faith among many of the farmers that the Congress, State legislatures, various agencies whether it be State or Federal, will act with commonsense and good taste in interpreting and enforcing these water quality regulations.

In fact, it seems that one of the reasons that we are here today is there seems to be a question of whether or not even the intent of the Senate bills have been totally interpreted in good sense and good taste by the courts. It may not be possible to put regulations into language that can be understood but the confusion that now exists is not helping improve water quality.

I would like to emphasize that dairymen are not opposed to clean water acts. I think farmers favor that 100 percent. I think all of them are trying to meet reasonable kinds of requirements. I don't know of any who intentionally are running pollutants into the streams. Likewise, I think our dairymen are in a position where they need the manure. They want to keep it on the fields, to maintain fertility. We also look upon the dairy industry and the dairy cow as an important animal industry that is important in preventing the problems of water pollution in that she does utilize many of the byproducts that would be potential pollutants if the cow were not there to utilize it.

The third point in the introduction that I feel very definite about is that I have a great deal of faith in our farmers that they both have the ability and the desire, as has been expressed here previously, to do the job of cleaning up our waters and improving those that have been polluted; if we can give them methods, specific guidelines, and ways to get the job done.

I think through our research and education that we can do a great deal in applying technology to improving the situation. The laws, the permits, and other written material will not really do the job unless we somehow or other create a desire and practical way for the people to get it done. So I think really we need to be concentrating upon the idea of giving some specific guidelines to the dairy farmers and not get too involved in the little details that cause confusion.

To illustrate this point, I have used with farmers many times, and some of our agencies; the example that we had back 25 years ago with minimum milk standards. There was a market requirement—desired and wanted—that each dairyman have a milkhouse. I remember early extension farm meetings conducted to help the dairyman meet these regulations, which they all wanted. But because of certain interpretations and confusion, frequently the meeting would deteriorate into an argument about whether the milkhouse door should open to the right or the left. Consequently, the real purpose and potential significance of meeting was lost. Essentially the milkhouse was lost because of confusion about the door. One dairyman commented that he kept a screwdriver in his pocket, keeping it handy, so he could change the hinges on the door to satisfy each inspector.

This is one reason we came here as a panel today. When I received a call from your office to appear, I think the first thing I mentioned to Jeff was that I would not want to be here alone. I would want to be sure that the other agencies involved, those that are concerned with this were also here to enter into a unified kind of an approach. Definitions and interpretations that cause confusion or arguments only confuse the farmer and create further problems rather than making real progress in improving manure handling methods.

So with that in mind we do appear as a panel. I feel as it has been definitely expressed previously that we must have unified kinds of programs of all agencies involved. We are going to start with Mr. Richard Cohen, from our State Department of Agriculture, who will present a summary of some of the statistics that were suggested as to the kinds and numbers of farms that we have in the State, Mr. Chairman.

[The prepared statement of Professor Crowley follows:]

Summary of Panel Discussion by Wisconsin Group
To
Senate Joint Committee Hearings
On
Impact of E.P.A. Regulations On Run-Off
On Wisconsin Livestock Farms

James W. Crowley
University of Wisconsin

In summary, there are 74,000 livestock farms in Wisconsin; about 52,000 of these are dairy farms. The average number of cows per farm is about 35. These are kept on 150 to 200 acre farms, housed and fed in stanchion barns with paved barnyards for exercise and some feeding, and in most cases all or part of the herd is pastured during summer months. Only 574 of the dairy farmers have more than 100 cows and only 12 feed lots have more than 1,000 head.

Most of the dairy farms have been in the same family for several generations. Buildings have been enlarged, mechanized and remodeled to improve efficiency of production and to satisfy milk market requirements. Capital investment on the average size farms is now $100,000 to $150,000. Moving, destroying, or investing large amounts of nonproductive capital on these farms would definitely force many to quit.

A definition that makes each of the 74,000 livestock farms a point source of pollution would create undue and unnecessary problems for the farmer and any agency that must enforce the requirement. Farmers and other citizens who cannot see the validity or reason for such an all-inclusive definition that declares all farms as point sources of pollution would certainly be critical. The administrative nightmare and expensive of immediately issuing 74,000 permits are unrealistic and unwarranted. A definition is needed that requires permits from only those farms which have conditions of size, location and managerial practices that could lead to significant run-off to streams. With trust and faith in the desire and ability of the farmers, adequate information and technical help and financial assistance to those who must make major changes, the problem with point source run-off from the Wisconsin farms can be solved or prevented. Guidelines and suggested good management practices for both new and existing facilities are needed. Laws and regulations that are not well-founded, factual and feasible can not improve water quality. They can cause undue hardship on family farmers, decrease food supply and increase financial burdens for governmental agencies.

The hardship or problems of primary concern are not the expense or time devoted to improving or correcting significant sources of water pollution. The major concern is the potential bookwork, inspections, questionnaires, and/or permits that require time and money of both the farmer and enforcement agent. Bookwork is rapidly burying the small independent owner-operated business. You must be aware of the comment frequently heard from farmers - "It takes more time to fill out the forms and meet with the inspectors from health authorities, safety officials, tax collectors, drug officials, etc. than it does to milk the cows." Time and money of either individual farmers or agencies that are effectively used to improve water quality is logical. If time and money are spent on paperwork just to meet legal requirements, then legal requirements need changing.

Senator **Nelson**. Thank you very much, Professor Crowley.

Mr. **Cohen**. My name is Richard Cohen. I am a research analyst with the Wisconsin Department of Agriculture. Speaking for the Wisonsin Department of Agriculture, we appreciate the opportunity to address ourselves to the concerns of your committee, which are also of great interest and concern to Wisconsin farmers.

Wisconsin is the leading milk producing State, accounting for 16 percent of the national supply, with the 18.4 billion pounds produced in 1974. Wisconsin supplies milk and dairy products not only for consumers in our State, but for much of the Nation, with 85 percent of the milk sold out of State in fluid or product form. Nearly 40 percent of the Nation's cheese and 20 percent of the butter are produced in Wisconsin.

The fact that over half of the State's income from the sale of farm products comes from milk marketing clearly identifies the importance of a strong, vigorous dairy industry to a healthy agricultural economy in Wisconsin. Dairying continues to be the mainspring of our State's agriculture in the stability it provides and its contribution to the family farm concept of farming. The average size farm in Wisconsin is 188 acres, very much a family-farm-size operation. The average milking herd now numbers 32 cows.

We have estimated that if each and every feedlot in the State were determined by the EPA to be point sources of pollution, up to 74,000 dairy, beef, and hog farmers in Wisconsin would be affected. In 1974, there were approximately 52,000 dairy farms in the State. There were 7,096 farms with cattle on feed. Only 12 of these had over 1,000 head of beef cattle; 7,084 farms had fewer than 1,000 head, with the great majority of these consisting of 50 head or less. In 1974 there were approximately 25,000 farms in Wisconsin which fed hogs.

According to the 1974 Wisconsin Assessor Farm Census, there were a total of 52,277 dairy farms in the State. The breakdown, by size of dairy herd, is as follows:

	Percent
1 to 9 cow herds, 4,660 farms	9. 0
10 to 19 cow herds, 8,406 farms	16. 1
1 to 19 cow herds, 13,066 farms	25. 1
20 to 49 cow herds, 32,038 farms	16. 2
50 to 99 cow herds, 6,599 farms	12. 7
100+ cow herds, 574 farms	1. 1

In the past 20 years we have seen significant changes in Wisconsin's agriculture. Our farm numbers now total 104,000, over 50,000—or one-third—fewer farms than we had in 1955. Our total land in farms has dropped from 23.2 million acres to 19.5 million acres. Some of the land from the farms that were lost has been added to existing farm operations, but a substantial amount of production acres has been lost to urbanization, transportation, and other nonfood producing uses.

With the decline in the number of farms, we have seen a shift away from dairy farming to cash crop farming. The pressures of the cost-price squeeze and the economic return from dairying have not justified the personal confinement of twice-a-day milking of cows. In this 20-year period, the number of dairy farms in Wisconsin has declined 60 percent—dropping from 122,000. On September 1, 1975, Wisconsin had 51.179 dairy herds, 256 less than on April 30, and 1,195 less that at the first of the year. During the past 20 years, however, Wisconsin dairy farmers, through wise use of advanced management practices, have raised the average production per cow by 42 percent, from 7,160 pounds in 1955 to 10,200 pounds in 1974. Herd size has grown from an average 24 cows in 1964 to 32 cows last year. The capital investment in an average size dairy farm operation in Wisconsin now ranges from $110,000 to $150,000. This amount of investment in relation to the size of an average dairy operation underlies the vulnerability of Wisconsin's dairy industry to the cost-price pressures and strongly points up the reason for our concern as to the future of the dairy industry.

A major problem to the dairy industry, affecting producers and consumers alike, has been the fluctuation of farm input prices. These price movements, primarily higher, have been fast and in such large steps at one time that our current milk pricing system cannot reflect the changes in time to head off long-run problems. A large part of this problem centers around grain prices which represent about half of the variable cost to dairymen.

During 1972, when the State's record high milk production per cow was established, the value of the grain ration fed to dairy cows in Wisconsin averaged $3.22 per hundredweight. Based on the records of the first 7 months of 1975, the average value of grain and concentrates fed will be over $6 per hundredweight—85 percent above the 1972 level—while the production per cow will average 10,100 pounds—which is below the annual rate in 1972.

Overall, farm production expenses continue their persistent rise, as input prices for commodities and services rose about 8 percent in the last 12 months. While our farmers have had some relief from last year's 15 percent price increases, with shortage of items such as machinery, twine, and fertilizers, the price increases still persist.

Dairy farmers have been hit particularly hard. Research at the University of Wisconsin indicates that the average total cost of producing milk in 1974 was $9.59 per cwt. In Wisconsin the average price paid to farmers in 1974 for all milk of average test was $8.26 per cwt. Dairy farmers are doing somewhat better this year. Wisconsin dairy farmers received $8.60 per cwt for all milk of average test delivered to plants and dealers during September. This is still less than the $9.59 per cwt cost figure for last year, which included variable costs plus taxes, interest, and depreciation. With these economic factors it is not surprising to see dairy farmers selling their herds and going into cash crops, into eight types of employment, if available, or just retiring if their children are not interested in continuing the operation.

That concludes my remarks, Mr. Chairman.

Senator **Nelson**. Thank you very much.

[The prepared statement of Mr. Cohen follows:]

Statement of Richard E. Cohen
Research Analyst
Wisconsin Department of Agriculture
Before the
Select Committee on Small Business
United States Senate
October 22, 1975

Mr. Chairman and members of the Committee. Speaking for the Wisconsin Department of Agriculture, we appreciate the opportunity to address ourselves to the concerns of your Committee, which are also of great interest and concern to Wisconsin farmers.

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We have estimated that if each and every feedlot in the State were determined by the EPA to be point sources of pollution, up to 74,000 dairy, beef, and hog farmers in Wisconsin would be affected. In 1974 there were approximately 52,000 dairy farmers in the State. There were 7,096 farms with cattle on feed. Only 12 of these had over 1,000 head of beef cattle. 7,084 farms had fewer than 1,000 head, with the great majority of these consisting of 50 head or less. In 1974 there were approximately 25,000 farms in Wisconsin which fed hogs.

According to the 1974 Wisconsin Assessor Farm Census, there were a total of 52,277 dairy farms in the State. The breakdown, by size of dairy herd, is as follows:

1 to 9 Cow Herds	4,660 Farms (9.0%)
10 to 19 Cow Herds	8,406 Farms (16.1%)
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With the decline in the number of farms, we have seen a shift away from dairy farming to cash crop farming. The pressures of the cost-price squeeze and the economic return from dairying have not justified the personal confinement of twice-a-day milking of cows. In this 20 year period the number of dairy farms in Wisconsin has declined 60% -- dropping from 122,000. On September 1, 1975 Wisconsin had 51,179 dairy herds, 256 less than on April 30 and 1,195 less than at the first of the year. During the past 20 years, however, Wisconsin dairy farmers, through wise use of advanced management practices, have raised the average production per cow by 42%, from 7,160 pounds in 1955 to 10,200 pounds in 1974. Herd size has grown from an average 24 cows in 1964 to 32 cows last year. The capital investment in an average size dairy farm operation in Wisconsin now ranges from $110,000 to $150,000. This amount of investment in relation to the size of an average dairy operation underlies the vulnerability of Wisconsin's dairy industry to the cost-price pressures and strongly points up the reason for our concern as to the future of the dairy industry.

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That concludes my remarks, Mr. Chairman.

Mr. Crowley. Professor Graves will summarize some of the activities and methods that have been used and are currently underway to help solve the problem in Wisconsin.

Mr. Graves. My name is Robert Graves, agricultural engineer at the University of Wisconsin. I would like to call your attention, if I might, to a diagram which is the final page of my testimony, and if it is agreeable, refer to a large one I have here.

My main intent now, rather than to go through the whole statement, is to review just a little bit some of what we do on small dairy and beef farms in Wisconsin to either protect or improve surface water quality.

To begin with, we see a typical situation of a small dairy herd (30- to 40-cow herd). We notice we are on sloping land. We might have a stream in the nearby vicinity. As a first step, we fence the cattle that are in this barnyard or feeding area, away from the stream, if there is a stream adjacent to the barn. In some situations we might have to go to the extreme of moving the lot from one side of the barn to another. Or in instances, which we have probably more than we would like, where a farmstead was located many years ago in a very severe valley and we are constrained by a roadway, a stream, and a hillside, we even would like to think we can sometimes work on the stream itself and either move it slightly or certainly come in with streambank protection so we see to it that we keep the clean water in the stream from ever running into the barnyard area.

Another thing that we would consider important in other situations, depending on how close we might be, is just overall lot maintenance. We are thinking of a very small dairy farm in relation to a 15,000 head beef feedlot or something. This area represented here might only be 100 feet by 100 feet and a paved area, scraped on a regular basis as part of grade A regulations. We don't want the cows wallowing around in manure.

Some of the other things we would notice here, some of the questions that I indicate in my written testimony that is difficult for us to relate with farmers, is if we forget the part of the lot where the feed bank is. We have just a barn in which cows are housed in the wintertime and into which they are brought twice a day to milk in the summer; they are fed inside, and all we have outside is an exercise lot. We have the question, is that a feedlot or is it not; this clarification is important if I must reply to the effects of large farm regulations on this farm.

On the other hand, if we look at this picture and the feed bunk is there, it is rather obvious that it would fulfill the definition of a feedlot. Again, maybe now we have a lot that is 150 feet long and 100 feet wide. We come in and put a diversion above so the water that is coming down off this watershed cannot flush through the lot, so we have a very small watershed on which rain falls and manure can be present and carried away. Then we have the question if the stream is not in the lot, and if we are sure that the runoff from the lot is in this direction to a cornfield or a pasture or a hayfield, do we have a discharge, is there some kind of distance?

These are the sort of things that a farmer says to me or Jim or whoever, "How do I know if I have a discharge?" Quite honestly, if we were to poll farmers right now and say according to a court interpretation of the law (Public Law 92-500), you are a point source of pollutants, I think a vast majority of them up until that time would not have even realized they were a polluter.

In other words, they never did go out and dig a ditch that went from here (barnyard) to the stream, so they don't even realize they are doing something wrong, if, in fact, they are. But if the law is interpreted that this is a feedlot and this stream is too close and they are a polluter, this would bring in some of the questions. One thing I would point out that we don't like to see for our conditions in Wisconsin, and this is not in relation to EPA feedlot guidelines. We do not show any kind of detention pond to hold runoff water from these small lots.

We feel that there are only very extreme cases where this would be advisable considering the potential there might be ahead of time for pollution anyway and the added costs and problems that could come from the pond. I can give an example of a county that has had an active educational and county program, in doing these types of things, and yet of the 150 farms that have been serviced there in the last 3 years, I could not certify that they all have capacity to hold this 25-year, 24-hour storm which EPA talks about. As far as being able to say no way does discharge come from that lot, we don't feel it is critical. We feel the small amount coming off of this lot onto a pasture or hayfield is really not going to be a problem.

I am just trying to point out the problem we have of trying to direct the answer to your questions of what would it cost, what would it take to bring this type of farm in under regulations that really were designed and engineered and written around the large southwestern feedlots where we are talking acres rather than square feet and many animals rather than a few.

So with that, I would thank you for the opportunity to be here and at the appropriate time be willing to answer any further questions.

[The prepared statement of Mr. Graves follows:]

COOPERATIVE EXTENSION PROGRAMS
UWEX University of Wisconsin – Extension
University of Wisconsin – Madison

College of Agricultural and Life Sciences 460 Henry Mall, Madison, Wisconsin 53706 Area Code 608-262-3310

AGRICULTURAL ENGINEERING DEPARTMENT

STATEMENT BY
ROBERT E. GRAVES, Ph.D., P.E.
ASSISTANT PROFESSOR & EXTENSION AGRICULTURAL ENGINEER
UNIVERSITY OF WISCONSIN-MADISON, UNIVERSITY OF WISCONSIN-EXTENSION
BEFORE SENATE COMMITTEES ON SMALL BUSINESS, AGRICULTURE AND PUBLIC WORKS
OCTOBER 22, 1975

SUMMARY OF COMMENTS ON EPA POINT SOURCE REGULATIONS AND SMALL TO MEDIUM SIZE DAIRY FARMS

I. 1) Small and medium size farms could better be handled as a part of nonpoint control programs.
   2) If small and medium size farms are included in the point source permit program the regulations and permitting system must be easily understood by the farmer. Present large farm regulations and permits are not clear and concise.

II. 1) There are many methods for controlling runoff around farmsteads. Standardization of one or two methods is not a reasonable alternative.
   2) Good conscientious management is more important than "the runoff control system" in controlling barnyard runoff.

III. Implementing special runoff control programs on small farms requires more than money.
   1) The most important ingredient is time. After the federal government finally decides what it wants, 10 years for implementation would be a minimum.
   2) The cost of diverting technical assistance and education from other programs (soil conservation, energy savings, increasing food production, etc.) must be considered.
   3) There is not an adequate number of contractors, equipment and operators to even consider implementation of runoff control systems in a short time on all farms.

IV. Environmental Eye - Lafayette County Wisconsin, a local program that works. Local awareness and support for protecting and improving surface water quality will do a good job given support and time.

University of Wisconsin • United States Department of Agriculture • Wisconsin Counties Cooperating

1. Large feedlot regulations applied to small and medium size dairy farms.

It is difficult to assess how EPA regulations based on large, highly specialized confinement feeding lots would affect small and medium size dairy farms. Almost all dairy farms have some kind of outside lot for part or all of the herd (not including pastures). If every dairy farm with an outside feed bunk or exercise yard is included the affect will be significant.

My personal feeling is that as a class these farms should be included in nonpoint source control and regulation programs. The exceptions where a pipe or man-made ditch carries manure or waste water directly to a stream could logically be considered a point source without inclusion of all farms. These exceptions could be handled as significant sources of pollution or under the definition of point sources which includes pipes and ditches.

If small and medium size farms are to be included as point sources changes in the regulations are needed. The requirements of the law for this class must be better explained. Parameters are needed to define concentrated animal feeding facility and discharge in terms the farmer can understand and relate to. At least indicate a minimum concentration of animals (number of square feet per animal) and geographical relation of surface waters to feedlot. Is any runoff from the lot a discharge or only that which follows a discernable drainage path or pipe to a stream?

A few illustrations follow:

A 40 cow stanchion barn with a 100' x 100' graveled exercize yard beside the barn. Is this a partly covered feedlot and, therefore, always require a permit, is it not included because no feeding is done in the yard, or does the requirement very depending on other factors?

A 60 cow dairy with a silage feeding bunk in the barnyard. The lot is located 80' up the side of a hill from a small stream. This appears to fulfill the definition for a feedlot. However, does a discharge occur if there is no discernable drainageway direct from the lot to the stream?

These are not "nit picking" questions or isolated instances. These situations and many more must be considered and defined if we are to sensibly pursue implementation of any program.

Small and medium size farmers should not have to hire engineering consultants and lawyers to determine if they have a discharge or require a permit under this law.

II. Runoff control measures utilized in Wisconsin.

Many techniques are used separately or in combination to protect or improve surface water quality around small and medium size farms. These are summarized below and in the attached diagram.

1. Provide separation between streams and barnyards or feedlots by:
   a. fencing
   b. moving lot
   c. moving stream
   d. if a new lot, locate away from stream

2. Lot maintenance: clean manure from lot regularly (weekly to daily) thus reducing amount of manure available for runoff.

3. Prevent direct drainage from barnyards or feedlots to streams.
   a. Locate and grade lot and use upper diversions to prevent clean water from flowing through lot and picking up manure.
   b. Grade lot, use dikes and/or collection channels to prevent direct discharge of water from lot into a stream.
   c. Provide for maximum solids separation as part of lot and collection channel design. This reduces solids carried by runoff water away from vicinity of lot.

4. In extreme locations, lot runoff water may be impounded for later disposal. A detention pond is not normally recommended for quantities of water and solids running off small barnyards or feedlots. The extra expense and nuisance problems associated with them are not considered worth the possible benefits.

III. Cost for complying with best practicable and best available technology requirements as defined by EPA.

The cost of implementing positive runoff control for the 10 year 24 hour or 25 year 24 hour storm on Wisconsin farms must be expressed in several parameters. A true value for cost cannot be arrived at by establishing an average dollar cost per farm and multiplying by the number of farms.

- Dollar costs for non-income producing work.

Runoff control devices would include diversions at an average cost of 50¢ per foot and excavated channels and holding ponds at 60¢ per cubic yard. Concrete can be placed at about $75 per cubic yard (prices supplied by state office USDA-SCS). A control system in place would average at least $1,500-$3,000. This does not include equipment for emptying the holding pond or time and labor required for annual maintenance and operation.

- Technical and educational requirements.

Wisconsin does not have a large supply of technical expertise available to evaluate, design, and oversee construction of runoff control facilities. This is presently provided as a part of programs by the Soil Conservation Service and by University Extension personnel. Diversion of these people to full time runoff control work would be disastrous to other programs of conservation (erosion control, etc.) and education programs aimed at improving overall farm management, food production, and energy conservation. Estimates made in 1973 and checked this fall indicate that with present technical resources applied full time it would take 10-20 years to design and oversee construction of these projects. Estimates range from 5 to 20 man days per farm for surveying, design, and construction supervision. Private consulting firms to do this work are not available--even if farmers could afford them.

- Availability of contractors, equipment, and supplies.

Rural areas do not provide sufficient work to support large numbers of contractors with equipment and personnel for constructing runoff control facilities. In many cases, conservation work (diversions, terracing, etc.) is performed only when private or public equipment is not needed for construction and maintenance of highways or buildings. Private contractors are not likely to gear up for massive projects of runoff control construction for a few years. Given a sensible long-term program for construction, it would pay for additional equipment and operators to be added.

IV. Environmental Eye - Lafayette County Wisconsin, an example of a local program making good use of local, state, and national resources to protect and improve surface water quality.

This project is presented to show:

1. Something is being done.
2. Local initiative and local interpretation are an effective tool once a problem is defined.

This project was initiated in 1973 by the county agricultural extension agent and the district conservationist. They saw the need for increased effort in controlling barnyard runoff in this hilly agricultural county with many small to medium size dairy and livestock farms. County and local government gave immediate moral support as well as assigning some part-time manpower and equipment. As the program has expanded, the county has been able to apply some cost sharing money.

The key to its success lies, however, with the feelings generated through positive education, publicity and example. The farmer was not slapped with a regulation saying he must or else! Rather, he, along with his neighbors in town, were made to realize that they all had a stake and a responsibility in protecting the environment and the local economy. Public monies and resources that were used were mostly local and, therefore, used wisely, not just spent and recorded to satisfy federal auditors. Projects are designed to suit individual needs of each farm rather than using a "standard" or average system for all farms.

In the first three years of this program, about 170 farms have instituted what we consider more than adequate runoff control. One hundred twenty farms of the remaining 800 have requested help but have not yet been serviced. At the present rate of 60 farms per year, 10-15 years will be required to complete this project depending on how many of the 800 farms cease operation. This again highlights the important ingredient of time when considering runoff control practices.

In terms of long-term environmental protection, this project offers one more important feature. The farmer has decided that it is important to him to control runoff around his farmstead. He has invested his own money and time in the control project. This acceptance of the importance of controlling runoff will likely result in a high degree of long-term management to insure the system keeps working. Runoff control systems require good management to be successful. If a system is forced on a farmer (or given to him) without his accepting it as being important, the key ingredient of management will likely be missing and the end goal not achieved.

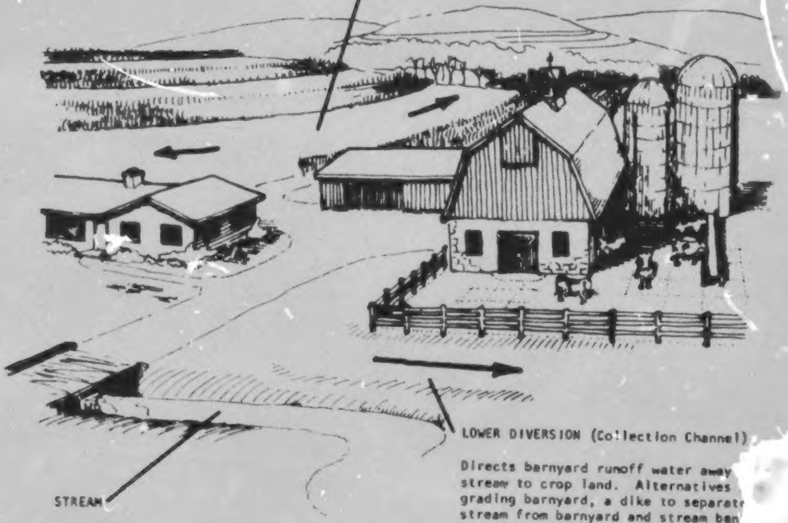
REG/baa
10/20/75

RUNOFF CONTROL MEASURES FOR SMALL FARMS	OCTOBER 1975
	REG RPM

AGRICULTURAL ENGINEERING DEPARTMENT 460 Henry Mall University of Wisconsin-Madison 53706 608-262-3310

UPPER DIVERSION(S)

Redirects runoff water from fields above the farmstead. This prevents field runoff from washing through the barnyard.



LOWER DIVERSION (Collection Channel)

Directs barnyard runoff water away [illegible] stream to crop land. Alternatives [illegible] grading barnyard, a dike to separate stream from barnyard and stream bank stabilization.

STREAM

As a minimum measure streams should not run through a barnyard. Fords or improved cattle crossing points can be used for access to pastures and for water.

Senator NELSON. In that particular example, what you are really saying, I take it, is that you may very well have a farm concentrated feeding operation, feedlot, barnyard, very close to a stream, and yet with the best waste management practices, there may be no drainage from that concentrated feedlot into the stream?

Mr. GRAVES. I would say in my judgment by providing this, we certainly—it is minimal, because we don't let it run. If this was only a 25- or 30-foot distance, we would prevent it from going directly to here into the stream, and from here we would send it along.

Senator NELSON. If you were referring to the Federal court decision, if I understand correctly, the court didn't say that all feedlots, dairy or otherwise, were point sources. If I understand correctly, in EPA it was that you can't enumerate them all as point sources and then exempt them under the law. So, in other words, if it is a point source, then something has to be done about it.

I thank you very much.

Mr. CROWLEY. Next, we have Paul Didier from our Department of Natural Resources, who will review some of the activities we have had to date by his agency.

Mr. DIDIER. Thank you. Before venturing comment on any existing or proposed EPA regulations, I thought it would be beneficial to briefly share with you some of our Department's past experiences in attempting to develop rules in the area of animal waste management. I do this because some of these experiences may be particularly meaningful when reviewing proposed Federal regulations in this important area.

In December 1971, the Department of Natural Resources proposed regulations to control pollution caused by improper manure management. Preparation of those proposed rules took most of a year with the assistance of an advisory committee whose membership included farmers, agribusinessmen, University of Wisconsin scientists and engineers,plus representatives of the Soil Conservation Service, Agricultural Stabilization and Conservation Service, Wisconsin Department of Agriculture, Wisconsin Department of Health and Social Services, and several other interested citizens. Six public hearings on the proposed rules were scheduled for March 1972. Prior to the public hearings, an extensive information and educational program was carried out by the Department in cooperation with the University of Wisconsin extension.

I would like to touch on a few of the main points that were contained in those proposed rules. One section had to do with the protection of stream banks and beds as it would relate to feedlots. On the premise that runoff from a feedlot must not result in the violation of the water quality standard for the affected stream, our rules would have provided for diversion of runoff away from the stream and in other cases the collection of the runoff in some type of detention pond. The proposed rules called for the fencing of all streams flowing through feedlots and barnyards but not pastures. A 3-year compliance date was placed on this requirement.

Senator NELSON. You mean if the stream went through a pasture it would not be fenced?

Mr. DIDIER. Under our proposed rules, that is correct

The proposed rules prohibited the spreading of manure on land within 200 feet of a stream or lake between December 1 and April 1, our frozen ground season.

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In July of 1973, Wisconsin's Legislature created chapter 147, Wisconsin Statutes, which authorized the Department of Natural Resources to assume the administration of the NPDES permit program. An important factor to note, however, is that section 147.021 of the statutes restricted the Department to develop rules which were no more stringent than those promulgated by the Federal Government.

Pursuant to the new Wisconsin law, we proceeded to adopt administrative rules which mirrored those promulgated for the feedlot category in July of 1973, and February of 1974, by the United States EPA. Public hearings held on the rules patterned after those new Federal regulations attracted 24 citizen appearances. It seemed the primary concerns were about the meaning of "a significant contributor of pollution" in the regulations and where the technical and financial assistance would come from to build "detention ponds" if the smaller farmer were cited as a significant contributor. No further action on these proposed rules has been taken since the hearings, pending the outcome of what action EPA may take to comply with its court order.

Due to the background experiences I have just mentioned, we in Wisconsin have no doubt that regulations adopted without careful assessment of the ability of small operators to meet them could have disastrous effects on Wisconsin farmers, and on the regulatory agency responsible for their administration.

After receiving our invitation to appear here today, we received additional correspondence from Mr. Jeffrey Nedelman, legislative director for Senator Nelson, asking for our reaction on several proposed regulations as they are applicable to the smaller farmer. The following comments are directed toward the approaches and questions in Mr. Nedelman's letter of October 10, 1975.

There is no doubt that a precise definition of a concentrated animal feeding operation is essential. Some definitions which evolved in this area from Wisconsin's rule development follow:

(1) "Animal enclosure," one or more fenced pens, yards or similar uncovered structures located in close proximity and under single ownership, management or control in which an area less than or equal to 600 square feet is provided for each animal unit contained therein and in which animals are enclosed for all or part of 30 or more separate days per year.

(2) "Animal lot," one or more fenced pens, yards or similar uncovered structures located in close proximity and under single ownership, management, or control in which the concentration of animals is such that a vegetative cover is not maintained.

(3) "Animal shelter," covered structures under single ownership, management or control including but not limited to houses or barns in which animals are enclosed for all or part of 30 or more separate days per year.

The important factors in these definitions was to differentiate between covered and open enclosures and between confined feeding versus pasturing. It was not intended in our proposed rules to regulate barns or pastures under our definition of an "animal enclosure" or "feedlot."

Secondly, the concept of exemption due to economic hardship is one that cannot be taken lightly. Wisconsin farmers continually remind us that environmental controls may force the family operation out of business unless exemptions, financial aid and technical assistance are provided. I agree that stringent regulations will probably force replacement of corporate farming for single—or family—proprietorships.

The suggestions made by the Natural Resources Defense Council might have some merit if adequate definitions or alternate defined terms are provided for the terms "measurable wastes," "manmade drainage ditch flushing system," "feedlot," and "stream and/or navigable water." In short, we agree that feedlots should be regulated as a point source if:

(1) They have intentional discharges of animal wastes through manmade pipes or ditches to a stream.

(2) They have a stream which passes directly through the feedlot.

(3) If the feedlot exceeds the 1,000-animal unit equivalents.

Senator Nelson. What if the stream doesn't run through the feedlot but is as in the picture you have showed us drained directly into the stream anyway, wouldn't you call that a point source?

Mr. Didier. It is hard to answer unless you know all the details but it could very well be a point source because of the nature of the discharge and whether such a discharge could be shown to cause a violation of the water quality standards——

Senator **Nelson**. If I understood you correctly, you said a manmade ditch draining the waste into the stream. I was simply taking your example, where there wasn't a manmade ditch but it would drain directly from the barnyard to the stream and the best waste management would contour the land to drain it toward the pasture, if possible. Were you by your definition excluding the exact case where it wasn't a manmade ditch but it was naturally flowing straight into the stream from 100 feet away?

Mr. **Didier**. Do you mean the example shown in the sketch that Mr. Graves used in his presentation?

Senator **Nelson**. You were just saying you would call it a point source if it drained through a manmade structure into the stream. I am saying wouldn't you call it a point source if it was 100 feet away and draining from the slope of the land directly into the stream?

Mr. **Crowley**. If the manure is running into the stream, whether it is a natural ditch or a manmade ditch, it is a point source, and that was the intent in the definition that we had there. If there was actual manure running into the stream, it is a point source.

Senator **Nelson**. Excuse me one moment.

[Short recess.]

Senator **Nelson**. I guess you did answer that question. Do you agree with Dr. Crowley's answer?

Mr. **Didier**. Yes; I agree.

Senator **Nelson**. I though you might be defining this particular situation out of the point source.

Mr. **Didier**. That would be a hard one to sort out, especially with a manmade lot that is draining right into the stream.

Senator **Nelson**. You gentlemen all heard the testimony of the representatives from the Minnesota Pollution Control Agency. The program they have developed uses the manpower and expertise of the Federal agencies, State agencies, county boards, county agency, county feedlots inspector. Do you agree that some system of local, State, county, town level cooperation of this kind would be an effective approach to implementing the intent of the law?

Mr. **Crowley**. Very definitely we do, and we have been using this approach in numerous other questions, as I indicated earlier. We very definitey feel that this has to be the way it goes and what we need to get that, to be effective, is to get the assurance, I guess, that we can get together as a group to agree on these things, and we have to have clarifications of definitions as currently exist.

The various kinds of discussions we have had to date have been more or less disagreements where one group is not quite sure how to interpret a definition. The principle of it—1,000 percent.

Bob, would you want to comment further on it?

Mr. **Graves**. I think that would fit in with the type of thing that had worked well for us in the past. I guess my only question, and this is just a very quick reaction. I think the idea of relating first with new operations becomes a good way, that is, when the man is most interested and is putting the dollars on the line and he certainly wants to be sure he is doing it right.

It is also a time of expansion or new construction when it makes the best sense to see that we don't get into anymore trouble. If we get another guy down there close to the stream this would tend to give us the time aspect which we really need with the numbers of people we have worked with.

I guess my only other thought on that would be whether it is necessary to carry that preregistration for new structures clear down to the 30-cow dairy farmer or whether as Indiana does with a similar program, they require registration of manure-handling or waste management systems for anyone who is growing over a certain size—I think feedlots it is 300 head. There might be some merit in not putting it across the board.

Senator NELSON. Thank you very much, gentlemen, for your very valuable contribution to this discussion. We appreciate your taking the time to come.

[The prepared statement of Mr. Didier follows:]

STATEMENT BY PAUL P. DIDIER, CHIEF
INDUSTRIAL WASTEWATER SECTION
DEPARTMENT OF NATURAL RESOURCES
BOX 450, MADISON, WISCONSIN

Before subcommittee on the question of the impact of EPA pollution control requirements on small farms.
Senate Small Business Committee - October 22, 1975.

Before venturing comment on any existing or proposed EPA regulations, I thought it would be beneficial to briefly share with you some of our Department's past experiences in attempting to develop rules in the area of animal waste management. I do this because some of these experiences may be particularly meaningful when reviewing proposed Federal regulations in this important area.

In December, 1971 the Department of Natural Resources proposed regulations to control pollution caused by improper manure management. Preparation of those proposed rules took most of a year with the assistance of an advisory committee whose membership included farmers, agri-businessmen, University of Wisconsin scientists and engineers, plus representatives of the Soil Conservation Service, Agricultural Stabilization and Conservation Service, Wisconsin Department of Agriculture, Wisconsin Department of Health and Social Services, and several other interested citizens. Six public hearings on the proposed rules were scheduled for March, 1972. Prior to the public hearings, an extensive information and educational program was carried out by the Department in cooperation with the University of Wisconsin-Extension.

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(1) They have intentional discharges of animal wastes through man-made pipes or ditches to a stream.
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(3) If the feedlot exceeds the 1000-animal unit equivalents.

Our responses to some of the other questions asked by Mr. Nedelman follow:

(1) How many farms have streams transversing feedlots? The number of farms which have streams transversing feedlots in Wisconsin could vary anywhere from 500 up to 5,000, depending on the definition of stream and feedlot.

(2) How many farms have the collection or man-made ditching treatment systems that is described by the NRDC? The number of farms having a "man-made ditching treatment system" again is dependent on what is meant by such a system. For example, most systems which collect or store animal wastes have been built in Wisconsin with the intent of preventing pollution. Our Department has not found any systems which have been constructed to intentionally flush wastes to a stream. Over the past five years or so, there have been several contaminated runoff collection systems constructed on an experimental basis with University of Wisconsin and Soil Conservation Service assistance or where the Department had issued orders to clean up. Beyond this, there may be 100's of barnyards which are sloped toward surface waters.

(3) How many of the State's farms DNR considers, according to the NRDC's definition, to be a point source? The number of farms that might be considered a point source according to NRDC's definition again is dependent on what is meant by some of the terms used. We estimate there are about ten operations which exceed the 1,000-animal unit equivalents. It is difficult to estimate how many might have a stream transversing the lot or have a discharge of wastes without further definition of the terms and without further investigation of farms located along the major drainage basins and their tributaries.

(4) How many small farms DNR estimates currently are significant contributors to water pollution in Wisconsin? At the risk of being repetitive, it is difficult to estimate the number of farms that currently are significant contributors to water pollution unless a significant contributor is defined. Our experiences indicate that farmers fear that they will be identified as "significant contributors." In our earliest efforts, Wisconsin presumed that the State pollution control agency would have to identify, through basin surveys or citizen complaints, those farms that were causing violation of the Wisconsin Water Quality Standards.

In Wisconsin the application of present EPA guidelines for BPT (containment of 10 year storm runoff) and BAT (containment of 25 year storm runoff) on all smaller farms would be a nonproductive endeaver, physically and economically impossible to attain and would create an administrative nightmare.

Based on these observations, the Department recommends that any program in this area identify those farm operations that might ultimately be defined as point sources during systematic drainage basin pollution surveys, surface water monitoring programs, and by investigation of sources brought to its attention on a case by case basis. Once identified, permits or orders could be proposed establishing BPT or BAT requirements. Such requirements should not be limited to the construction of 10- and 25-year storm runoff detention basins, but should also encourage good accepted farming practices such as (a) diverting clean water around the lot or enclosure, (b) preventing manure accumulations in the lot, and (c) relocating and/or fencing the lot as far as practical from the receiving water.

Other farming operations not identified under such a point source program which may be found to have more diffused pollution problems under nonpoint investigation programs should be covered by sound guidelines on accepted farm pollution control practices. Many such guidelines and practices have already been developed and are being implemented wherever possible.

If such a program were to be effective in Wisconsin, it would also have to provide for adequate technical assistance for the farmer affected and for sufficient time to attain operational levels and to add regulatory staff needed to administer the program. Right now, all available State agency staff time is devoted to other portions of the NPDES permit program with little or no resources available to take on the additional workload that obviously would be created by such regulations.

Thank you for this opportunity to comment on this important area of mutual concern. If you have any questions now or in the future, we will be pleased to answer them.

Mr. Crowley. We certainly appreciate your efforts and I know the farmers in Wisconsin appreciate the efforts of this committee, Senator Nelson, that they are concerned and they want to do what is right, but they certainly hope that we will have good commonsense kind of interpretations and enforcement of the regulations.

Thank you.

Senator Nelson. The next witnesses will be Mr. Guss Speth, Natural Resources Defense Council, and Trish Record, Midwest representative, Sierra Club, Madison, Wis.

A PANEL FROM THE RURAL RESOURCES DEFENSE COUNCIL AND SIERRA CLUB CONSISTING OF GUS SPETH, NATURAL RESOURCES DEFENSE COUNCIL, WASHINGTON, D.C., ACCOMPANIED BY MS. TRISH RECORD, MIDWEST REPRESENTATIVE, SIERRA CLUB, MADISON, WIS., AND RICHARD HALL, FRIENDS OF THE EARTH

Mr. Speth. We appreciate very much this opportunity to testify this morning. I have with me today Ms. Trish Record, the Midwest representative of the Sierra Club, and Mr. Richard Hall, representing the Friends of the Earth. I have asked them to join with me in order that I might better indicate the degree to which the environmental community is concerned about feedlot pollution and in order that they might help answer questions and bring their experiences to bear on questions you may have.

The statement which we prepared was prepared primarily based on information and concerns that we had prior to the hearings. I have had an opportunity to change the last page to address briefly the testimony of Mr. Legro yesterday. But what I would like to do is summarize the statement and then at the conclusion to respond to some of the things which have come up during the hearings.

Senator Nelson. Your statement will be printed in full in the record. You may present it however you desire.

Mr. Speth. Mr. Chairman, members of the committee, thank you for this opportunity to testify on the subject of water pollution from concentrated animal feeding operations and the Environmental Protection Agency's efforts to date to regulate discharges from such operations.

The Natural Resources Defense Council began shortly after the enactment of the 1972 Federal Water Pollution Control Act to monitor the implementation of the act by EPA and the States. During the past 3 years NRDC's project on clean water has carried out an extensive program directed at educating members of the public regarding the intricacies and possibilities of the 1972 act, at commenting on new regulations and guidelines proposed by EPA, and, where necessary, at initiating legal actions to insure that the act is properly carried out.

Thus far we have brought 10 such lawsuits. Five of these cases have now been resolved by the Federal courts, in each case in our favor. Our experience in this effort has been that even the clearest, most mandatory statutory provisions are not necessarily enough to get EPA to carry out the act as Congress wrote it, that EPA—far from being the environmental zealot it is sometimes pictured as being—is at best a reluctant regulator, and that constant vigilance on the part of Congress, the courts, and the public is the price of making the Nation's waters fit again for fishing and swimming and for supplying food and drinking water.

One job that has fallen upon the environmentalists during these past 3 years is the unpopular one of forcefully calling EPA's attention to major sources of pollution which the Agency, for one reason or another, wishes it did not have to confront. Agriculture, forestry, mining, construction, and urban streets are principal sources of our most serious water pollutants.

Vast quantities of toxic metals and carcinogenic organic compounds and billions of tons of sediment, nutrients, and oxygen-demanding materials flow into the Nation's waters daily from these sources.

Recent studies confirm that these sources are equally and perhaps more important than the manufacturing and municipal sewage discharges of traditional concern.

Already, cities and manufacturers are letting it be known that they will resist having to undertake further pollution control measures until something is done about pollution from agriculture, forestry, and so on.

By far the principal and most effective regulatory program of the 1972 act is the discharge permit program. Indeed, the permit program may turn out to be the only effective regulatory program under the Act. It is thus vitally important from the point of view of cleaning up the nation's waters that the program be applied to point sources in agriculture and in silviculture, and to those carrying urban stormwaters.

Not all pollution from these sources is point source in nature some are non-point source. But much of it comes from point sources and should, therefore, be regulated under the permit program.

It was from this perspective that we took strong exception to EPA's attempt to exempt major pollution point sources in the agriculture, silviculture, and urban stormwater categories from effective regulations under the permit program.

Fortunately for the public, the U.S. district court after a detailed consideration of the 1972 act and its history, found that such exemptions were not permissible and directed EPA to extend its permit program to these critical areas.

The effort to develop an effective regulatory scheme for feedlots, irrigation return flows and other point sources that must now be undertaken as a result of the district court's order deserves the strong support of all of you in Congress who want to see the country's waters returned to their natural beauty and productivity.

It deserves the strong support of all of you who believe that no particular class of dischargers should be granted special treatment and who recognize the pernicious precedent such special treatment would set.

And it deserves the strong support of all of you who long for the day when Federal agencies will have the capacity to implement the law as Congress wrote it and the strength to withstand unwarranted pressures from those who should be regulated.

The problem of pollution from animal feedlots illustrates the need for effective Federal action. Livestock wastes in our country amount to 2 billion tons annually, fully 10 times that produced by humans.

About half that amount is produced in feedlots. The consequences of pollution from these feedlots have been analyzed, and they are severe. Particularly important are the implications for human health. Feedlot pollution contains chemical residues from antibiotics and growth stimulating hormones which are added to the animal feed, as well as high levels of pathogenic organisms.

Meningitis, typhoid, streptococci infections, hepatitis, and other diseases are known to be transmitted through animal wastes. Runoff from feedlots has resulted in the temporary closing of at least one Federal recreation area because of elevated bacteriological counts, and shellfish beds have been closed due to contamination from feedlots.

Even more significant, diethylstilbestrol (DES) and numerous other drugs which are commonly added to animal feed as growth-stimulants have been shown to be cancer-producing. In the case of DES, cancer has been produced in experiemental animals with exposures as low as six parts per billion. The levels of this potent carcinogen which can be fed to cattle under FDA restrictions is surprisingly high, 20 milligrams per head per day, and roughly half the amount fed to the animal is discharged unchanged into its wastes and from there into the surface waters of the country.

It is now widely accepted that over three-fourths of the cancer observed in this country is determined by environmental factors, such as the occurrence of carcinogens in drinking water, and feedlots must be recognized as a source of potent carcinogens in the environment.

I would like to add at this point that these materials can not be fed to dairy cows. I am referring to the feeding of beef cattle.

Another health problem caused by feedlots—and again one involving cancer—stems from the high nitrate concentration of feedlot wastes.

High concentrations of nitrate in water can produce infant cyanosis (blue baby), vitamin A deficiency (pink eye) and thyroid disturbances. In Illinois, nitrates from feedlots have contaminated rural groundwaters in excess of Public Health Service levels, and studies have indicated that feedlot wastes are major contributors to nitrates in surface waters.

Less well recognized than the above effects is the possible relationship between nitrates and cancer. Some fraction of the nitrate consumed, for example in drinking water, can be converted to nitrite by bacteria in the human body.

Nitrite can in turn combine with other chemicals in the body to form nitrosamines, which are powerful carcinogens.

Feedlot pollution also causes tremendous damage to the aquatic environment. It contains large quantities of oxygen-demanding materials as well as nutrients such as phosphorus and nitrogen. For these reasons, feedlot wastes have caused severe oxygen depletion leading to numerous fishkills, chronic degradation of the aquatic habitat in many localities, and eutrophication of lakes in several States.

Federal wildlife reserves, for example, have been adversely impacted by feedlot pollution in Kansas, Texas, and Idaho.

Permitting feedlot wastes to be discharged into waterways, rather than collecting and using these wastes as a resource, imposes other costs on society as well. Over the years since the end of World War II the application of energy-intensive chemical fertilizers has more than tripled while at the same time the shift to large-scale feedlots has resulted in a situation in which manure is increasingly viewed as a waste problem and not a fertilizer resource.

Six hundred billion cubic feet of natural gas a year is used in the United States today in the production of synthetic nitrogen fertilizer, yet nitrogen-rich feedlot wastes are discharged routinely into surface waters where they are recognized as a major pollutant.

Strong encouragement of recycling feedlot wastes onto the land as fertilizer is needed to conserve energy for more essential purposes. Moreover, the collection of feedlot waste and its conversion to energy fuels to substitute for oil and gas is becoming increasingly realistic.

Commenting on the potential size of the energy supply to be derived from feedlot and other organic wastes, a 1972 Bureau of Mines study concluded:

> The oil or gas produced will be a valuable commodity having a low sulfur content and a high heating value. The possible production of oil from wastes accumulated is estimated to be 170 million barrels per year. This could provide half the residual fuel oil currently obtained from domestic sources and would reduce imports of this fuel accordingly. If converted to pipeline-quality gas, this available waste could produce 1.36 trillion cubic feet of pipeline-quality gas per year.

Additionally, the Department of Agriculture has been studying the feasibility of recycling animal wastes back through the food cycle as a protein-rich food supplement, and—in case you are thinking you are glad you are not a cow—the Army recently announced that it is developing a method of changing animal and other wastes to ethyl alcohol.

In sum, it is unnecessary and unwise from both an environmental and an energy perspective to allow feedlot wastes to continue as pollutants.

Such wastes are a resource and should be treated as such. EPA policies which promote this result should be strongly supported and encouraged by Congress and the public.

Two general issues have been raised in response to the requirement that all concentrated animal feeding operations be regulated as point sources under the act.

The first is that to do so would impose an unreasonable administrative burden on EPA, and the second is that compliance with permit conditions would impose an unreasonable financial burden on the owners of such operations.

Neither of these arguments can withstand scrutiny.

Senator NELSON. May I ask a question at this point?

Some of the estimates for dairy operations under certain circumstances would be as high as $200 per cow.

You mentioned the financial burden, what would be an unreasonable financial burden? I wonder how you can conclude that when the farmers in Wisconsin got less for the production of their milk last year then it cost them to produce it, any burden of $10,000 or $12,000 would not be financially unreasonable.

Mr. SPETH. Senator, I think basically I can respond in two ways; first, the point I wish to make is simply that it seems to be very premature at this point to conclude what the financial impact of regulation under the permit program is going to be on concentrated animal feeding operations. I go into that later on.

First, we don't know what concentrated feeding operations are. The farm you are talking about may not be a concentrated animal feeding operation.

Second, we don't know what pollution control measures are going to be required pursuant to those permits. So we don't know what the discharge standards are going to be as applied to the feedlots which are going to be brought into the permit program as a result of this court order.

I think so many of the things which have come up at these hearings are strawmen, something that nobody is proposing.

We are attacking over and over again these strawmen. We have heard about 1.5 million feedlots, we have heard about requiring small farmers with extraordinary small herds to go to no-discharge. I don't think either one of those things can be said with assurance right now and frankly I am positive that the permit program which EPA is going to come up with is not going to include anything like 1.5 million feedlots.

I want to get into that later on.

Senator **Nelson**. I wanted you to answer my question based upon the facts I gave you, not on the facts that you decided to respond to. My facts were if you do have a dairy farmer who is losing money on his operation and he is required to spend several thousand dollars, you certainly cannot conclude that would not be an unreasonable financial burden.

I am not talking about the issue of pollution; I am just talking about financial burden.

I raise it because when you do get to that kind of a case, then I think there is some obligation to provide some methods of either Federal matching funds, cost-sharing, long-term low interest loans, or some assistance because the act does require that financial burden be taken into consideration.

Mr. **Speth**. This is a rare opportunity for me to say that in the next couple of pages of prepared testimony I say exactly what you just said.

Senator **Nelson**. That is superb testimony then. I had not had the chance to read this.

You were at the second sentence at the top of the page.

Mr. **Speth**. I have it now, thank you.

Neither of these arguments can withstand scrutiny. Moreover, EPA's original exercise in leaning over backwards to accommodate these two concerns—the exercise which resulted in the 1,000-animal unit cutoff rejected by the District Court—resulted in an irrational scheme in which the vast majority of feedlots covered by the permit program were already achieving no discharge and the bulk of the feedlot pollution problem went unregulated.

Excellent discussions of how "EPA has grossly exaggerated the administrative problem" of regulating all concentrated animal feeding operations and how the actual program adopted by EPA "fails to relate to water pollution control problems caused by feedlots" are contained in the House Committee on Government Operations report, "Control of Pollution from Animal Feedlots and Reuse of Animal Wastes," April 25, 1974. I will not try to improve upon those discussions here, but would commend the House report to your attention.

We strongly support the conclusions and recommendations of this congressional report.

Senator **Nelson**. Let me ask a question I raised yesterday with EPA. In adopting the best available practical technology—whatever that really means—and in setting effluent standards, is there any reason why the EPA cannot, under the statute, use as effluent standards the best waste management practices?

Mr. **Speth**. Senator, I think the answer to that I would give would run something like this: First, I think that EPA is obligated, because of some language in the legislative history of the act, to try to the fullest extent that it can, to have effluent limits stated in quantitative, numerical terms—that is, to relate to pollution discharges in those terms.

There is some language in the history of the act which indiates that would push EPA strongly in that direction. So I think EPA is obligated to go in that direction as far as it can. I think, in some of these cases, it can do that and come up with a range of numbers and back those up with the best management practices and do both at the same time. On the other hand, there may be some cases in which it is just completely impossible to come up with a number for an effluent limitation guideline.

In that case, it seems to me it would be draconian to take that legislative history, when the statute itself doesn't require it on its face, and say that EPA, because of that history, couldn't come up with the best management practice and could not prescribe best management practices. I don't think Congress wanted to put EPA in that particular straitjacket. Clearly there were some straitjackets Congress wanted to put EPA into, but I don't think that was one of them.

I would say that when the legislative history that is there was put there, the main thoughts in the authors' minds, I am sure, were the industrial discharges. I think in that area EPA has to go to numbers, but I don't think Congress intended to force the agency to use effluent numbers exclusively in every case when it is not appropriate to do so.

So I think you have got to interpret that history to give the agency the authority to go to BMP's when that is clearly the way to do it.

Senator **Nelson**. As you have heard the testimony—well, in fact, every situation is unique in the proper sense of the word. There are no two exactly alike in terms of your feedlot drainage problem.

Now it is very easy—if you are not worried about money or if you are not worried about the imposition upon agriculture, and if you are not worried about food costs—to assure that you have got the best possible containment by requiring a substantial structural containment of the concentrated feedlot wastes to withstand a 25-year reign.

On the other hand, the common situation was one we looked at this morning. If you require the very expensive structure, then you could measure the numbers in every aspect of pollutants from that waste, because you contain it at least for 25 years, a 25-year reign, so nothing comes out—or almost nothing.

So that is the easy answer. On the other hand, if you institute a program of best waste management practices, such as the example of the farm that was before us, and therefore there is drainage, let's say, into a pasture area, how does one measure that in terms of effluent guidelines? I am concerned that we do not establish some automatic mechanical thing that achieves the highest possible result at the greatest possible expense without being necessary. Would you agree with that?

Mr. **Speth.** Yes, I do. I think the next point I want to make, though, to go back to the testimony that relates to that; it is that——

Senator **Nelson.** You are talking about the Dole-Muskie committee dialog?

Mr. **Speth.** No, that is not what I was going to say.

Senator **Nelson.** While you are on it, do you agree that represents the best-known legislative intent expressed in the debate on the issue on the floor?

Mr. **Speth.** It represents almost the only legislative history. I think that that dialogue represents a starting point, but I don't think you want to right away pick up what was said and put it in the regulation.

On the other hand, the concerns that were articulated there in terms of how do you go about it and the guidance the EPA can draw from that dialog seems to me very significant. We have no problems with building on that general approach.

Senator **Nelson.** Of course, anybody could argue about the numbers. Everybody will. The reason I believe this legislative intent, and this is the only legislative intent, is so important, is if Senator Muskie had not given the EPA guidance, we would have been adopting some amendments—in other words, amendments would have come in to the debate to clarify the issue one way or the other.

But that colloquy, between Senators Muskie and Dole, then satisfied Members of the Senate, or those of us who were concerned with this issue. It satisfied the Members as to what the intent of this statute was, so it is an important aspect of the act.

Go ahead.

Mr. **Speth.** Thank you

In considering the remaining matter—the economic impact of EPA regulation—it must be clearly understood that inclusion of a category of discharges in the permit program is only the first step in the regulatory process and does not itself decide issues of permit requirements. The nature of pollution abatement requirements which mut be written into the permits are governed by sections 301 and 304 of the act.

Most pertinently, these sections require achievement by mid-1977 of the "best practicable control technology currently available." This standard, as clearly reflected in the act and in its history, requires EPA to take into account the economic impact of any effluent limitation it imposes, including factors such as the age and size of the facilities involved.

Also, it should be noted that EPA's "Economic Analysis of Proposed Effluent Guidelines: Feedlot Industry" (August 1973) concluded that the potential impact of the no discharge requirement (eventually adopted for only those feedlots of over 1,000 animal units) was not large even for the smaller feedlots. The estimated impact on the dairy industry was particularly small.

Senator **Nelson.** A great many things happen in the world that I am not aware of, a tremendous amount, however, I am not aware of any inventory on this specific question on every dairy farm in America. To your knowledge has there been such an inventory?

Mr. SPETH. I am, Senator, sure there hasn't been that type of an inventory, but I would refer to you page XII-6 of the "Economic Analysis of Proposed Effluent Guidelines to the Feedlot Industry," published by EPA.

It has estimates. There are estimates in other places as well which are very, very similar to these. At the conclusion of the Reuss hearings, the House Government Operations Committee reached similar conclusions. I think this data is fairly firm. It may be off by a few percentage points, but it is not way off.

Senator NELSON. I will take a look at that. It may be a very good educated guess, but I am not aware of any inventory being done, and no matter what agency it happens to be, and no matter how highly I may regard it, I have learned around here that very frequently that a Wall Street lawyer with a Harvard degree is telling us what is happening in rural America, where he has never been.

So I always get a little suspicious of statistics unless I know the source.

Mr. SPETH. I think I can say that these were the conclusions of the House Government Operations Committee, and it is in the EPA economics study. The reason I put it in is because it escapes our attention sometimes.

It is significant that fully 30 percent of all dairy farms with 30 cows or less already meet the no discharge limit of EPA's feedlots effluent guideline. Seventy percent of farms with herds above 100 head meet the no discharge standard. I would also like to call your attention to section 8 of the act which amends the Small Business Act to authorize loans to small businesses which are "likely to suffer substantial economic injury" without such assistance.

Senator NELSON. That is my amendment. However, the problem is that they won't loan to farmers. So that $800 million that was authorized under my amendment does not help the farmers. However, we hope to correct that shortly, because Congressman Burton—not Phil, but his brother—authored an amendment specifically directing that SBA loan to farmers. But as of today, that does not help the farmer because the farmers won't get the loans under that Act.

Mr. SPETH. If we can testify on behalf of that amendment, we would be delighted to do it.

In our judgment it is infinitely better to assist farm operators, if such assistance is in fact needed, through small business and Department of Agriculture programs than to undercut badly needed environmental controls for the sake of shortrun economic advantages.

In conclusion, what is badly needed now is strong guidance from you telling EPA to get on with the job. You have seen from the testimony of Assistant Administrator Legro yesterday that what EPA really wants, and what it is taking this opportunity to try to get, is nothing less than the discretion not to regulate whole categories of point sources by excluding them from control under the permit program.

Such discretion would not only weaken the act as applied to feedlots and other potent pollution sources, but would create tremendous pressures for similar exemptions in other areas and would have other far-reaching and unfortunate ramifications. It would represent the initial unravelling of the carefully integrated water pollution abatement scheme so laboriously put together by Congress 3 years ago.

If our experience over these 3 years proves anything, it is that tight, mandatory regulatory schemes are essential to securing EPA action and that EPA discretion not to regulate will be resolved in favor of not regulating.

Moreover, preserving the act's tight framework is not *enough in itself*. The history of EPA's efforts to address agricultural and silvicultural pollution over the past few years has been one of strident and well organized opposition from these industries. As a result, EPA now wishes it could simply forget about point source pollution from these industries and certain others. What is needed, and what your committees can provide, is strong support for an effective permit program in these critical areas.

Thank you for this opportunity.

[The prepared statement of Mr. Speth follows:]

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STATEMENT OF J.G. SPETH,
NATURAL RESOURCES DEFENSE COUNCIL,
BEFORE THE SENATE SMALL BUSINESS
COMMITTEE AT HEARINGS ON FEEDLOT
POLLUTION ABATEMENT
October 22, 1975

Mr. Chairman, members of the Committee, thank you for this opportunity to testify on the subject of water pollution from concentrated animal feeding operations and the Environmental Protection Agency's efforts to date to regulate discharges from such operations.

The Natural Resources Defense Council began shortly after the enactment of the 1972 Federal Water Pollution Control Act to monitor the implementation of the Act by EPA and the states. During the past three years NRDC's Project on Clean Water has carried out an extensive program directed at educating members of the public regarding the intricacies and possibilities of the 1972 Act, at commenting on new regulations and guidelines proposed by EPA, and where necessary at initiating legal actions to ensure that the Act is properly carried out. Thusfar, we have brought ten such lawsuits. Five of these cases have now been resolved by the federal courts, in each case in our favor. Our experience in this effort has been that even the clearest, most mandatory statutory provisions are not necessarily enough to get EPA to carry out the Act as Congress wrote it, that EPA -- far from being the environmental zealot it is sometimes pictured as being -- is at best a reluctant regulator, and that constant vigilence on the part of Congress, the courts and the public is the price of making the nation's waters fit again for fishing and swimming and for supplying food and drinking water.

One job that has fallen upon the environmentalists during these past three years is the unpopular one of forcefully calling EPA's attention to major sources of pollution which the agency, for one reason or another, wishes it did not have to confront. Agriculture, forestry, mining, construction and urban streets are principal sources of our most serious water pollutants. Vast quantities of toxic metals and carcinogenic organic compounds and billions of tons of sediment, nutrients and oxygen demanding materials flow into the nation's waters daily from these sources. Recent studies confirm that these sources are equally and perhaps more important than the manufacturing and municipal sewage discharges of traditional concern. Already, cities and manufacturers are letting it be known that they will resist having to undertake further pollution control measures until something is done about pollution from agriculture, forestry and so on.

By far the principal and most effective regulatory program of the 1972 Act is the discharge permit program. Indeed, the permit program may turn out to be the only effective regulatory program under the Act. It is thus vitally important from the point of view of cleaning up the nation's waters that the program be applied to point sources in agriculture and in silviculture, and to those carrying urban stormwaters. Not all pollution from these sources is point source in nature; some is non-point source. But much of it comes from point sources and should therefore be regulated under the permit program.

It was from this perspective that we took strong exception to EPA's attempt to exempt major pollution point sources in the agriculture, silviculture, and urban stormwater categories from effective regulation under the permit program. Fortunately for the public, the U.S. District Court after a detailed consideration of the 1972 Act and its history, found that such exemptions were not permissible and directed EPA to extend its permit program to these critical areas. The effort to develop an effective regulatory scheme for feedlots, irrigation return flows and other point sources that must now be undertaken as a result of the District Court's order deserves the strong support of all of you in Congress who want to see the country's waters returned to their natural beauty and productivity. It deserves the strong support of all of you who believe that no particular class of dischargers should be granted special treatment and who recognize the pernicious precedent such special treatment would set. And it deserves the strong support of all of you who long for the day when federal agencies will have the capacity to implement the law as Congress wrote it and the strength to withstand unwarranted pressures from those who should be regulated.

The problem of pollution from animal feedlots illustrates the need for effective federal action. Livestock wastes in our country amount to 2 billion tons annually, fully 10 times that produced by humans. About half that amount is produced in feedlots. The consequences of pollution from these feedlots have been analyzed, and they are severe. Particularly important are the implications for human health. Feedlot pollution contains chemical residues from antibiotics and growth stimulating hormones which are added to the animal feed, as well as high levels of pathogenic organisms. Meningitis, typhoid fever, streptococci infections, hepatitis, and other diseases are known to be transmitted through animal wastes. Runoff from feedlots has resulted in the temporary closing of at least one federal recreation area because of elevated bacteriological counts, and shellfish beds have been closed due to contamination from feedlots.

Even more significant, diethylstilbestrol (DES) and numerous other drugs which are commonly added to animal feed as growth stimulants have been shown to be cancer-producing. In the case of DES, cancer has been produced in experimental animals with exposures as low as 6 parts per billion. The levels of this potent carcinogen which can be fed to cattle under FDA restrictions is surprisingly high (20 milligrams per head per day), and roughly half the amount fed to the animal is discharged unchanged into its wastes and from there into the surface waters of the country. It is now widely accepted that over three-fourths of the cancer observed in this country is determined by environmental factors, such as the occurrence of carcinogens in drinking water, and feedlots must be recognized as a source of potent carcinogens in the environment.

Another health problem caused by feedlots -- and again one involving cancer -- stems from the high nitrate concentration of feedlot wastes. High concentrations of nitrate in water can produce infant cyanosis (blue baby), vitamin A deficiency (pink eye) and thyroid disturbances. In Illinois, nitrates from feedlots have contiminated rural groundwaters in excess of Public Health Service levels, and studies have indicated that feedlot wastes are major contributors to nitrates in surface waters.

Less well recognized than the above effects is the possible relationsip between nitrates and cancer. Some fraction of the nitrate consumed, for example in drinking water, can be converted to nitrite by bacteria in the human body. Nitrite can in turn combine with other chemicals in the body to form nitrosamines, which are powerful carcinogens.

Feedlot pollution also causes tremendous damage to the aquatic environment. It contains large quantities of oxygen demanding materials as well as nutrients such as phosphorous and nitrogen. For these reasons, feedlot wastes have caused severe oxygen depletion leading to numerous fishkills, chronic degradation of the aquatic habitat in many localities, and eutrophication of lakes in several states. Federal wildlife reserves, for example, have been adversely impacted by feedlot pollution in Kansas, Texas and Idaho.

Permitting feedlot wastes to be discharged into waterways, rather than collecting and using these wastes as a resource, imposes other costs on society as well. Over the years since the end of World War II the application of energy-intensive chemical fertilizers has more than tripled while at the same time the shift to large-scale feedlots has resulted in a situation in which manure is increasingly viewed as a waste problem and not a fertilizer resource. Six hundred billion cubic feet of natural gas a year is used in the U.S. today in the production of synthetic nitrogen fertilizer, yet nitrogen-rich feedlot wastes are discharged routinely into surface waters where they are recognized as a major pollutant. Strong encouragement of recycling feedlot wastes onto the land as fertilizer is needed to conserve energy for more essential purposes. Moreover, the collection of feedlot waste and its conversion to energy fuels to substitute for oil and gas is becoming increasingly realistic. Commenting on the potential size of the energy supply to be derived from feedlot and other organic wastes, a 1972 Bureau of Mines study concluded:

> The oil or gas produced will be a valuable commodity having a low sulfur content and a high heating value. The possible production of oil from wastes accumulated is estimated to be 170 million barrels per year. This could provide half the residual fuel oil currently obtained from domestic sources and would reduce imports of this fuel accordingly. If converted to pipeline-quality gas, this available waste could produce 1.36 trillion cubic feet of pipeline-quality gas per year.

Additionally, the Department of Agriculture has been studying the feasibility of recycling animal wastes back through the food cycle as a protein-rich food supplement, and (in case you are thinking that you are glad you are not a cow) the Army recently announced that it is developing a method of changing animal and other wastes to ethyl alcohol.

In sum, it is unnecessary and unwise from both an environmental and an energy perspective to allow feedlot wastes to continue as pollutants. Such wastes are a resource and should be treated as such. EPA policies which promote this result should be strongly supported and encouraged by Congress and the public.

Two general issues have been raised in response to the requirement that all "concentrated animal feeding operations" be regulated as point sources under the Act. The first is that to do so would impose an unreasonable administrative burden on EPA, and the second is that compliance with permit conditions would impose an unreasonable financial burden on the owners of such operations. Neither of these arguments can withstand scrutiny. Moreover, EPA's original exercise in leaning over backwards to accommodate these two concerns -- the exercise which resulted in the 1000 animal unit cutoff rejected by the District Court -- resulted in an irrational scheme in which the vast majority of feedlots covered by the permit program were already achieving no discharge and the bulk of the feedlot pollution problem went unregulated.

Excellent discussions of how "EPA has grossly exaggerated the administrative problem" of regulating all concentrated animal feeding operations and how the actual program adopted by EPA "fails to relate to water pollution control problems caused by feedlots" are contained in the House Committee on Government Operations report "Control of Pollution from Animal Feedlots and Reuse of Animal Wastes" (April 25, 1974). I will not try to improve upon those discussions here, but would commend the House report to your attention. We strongly support the conclusions and recommendations of this congressional report.

In considering the remaining matter -- the economic impact of EPA regulation -- it must be clearly understood that inclusion of a category of discharges in the permit program is only the first step in the regulatory process and does not itself decide issues of permit requirements. The nature of pollution abatement requirements which must be written into the permits are governed by Sections 301 and 304 of the Act. Most pertinently, these sections require achievement by mid-1977 of the "best practicable control technology currently available." This standard, as clearly reflected in the Act and in its history, requires EPA to take into account the economic impact of any effluent limitation it imposes, including factors such as the age and size of the facilities involved. Also, it should be noted that EPA's "Economic Analysis of Proposed Effluent Guidelines: Feedlot Industry" (August, 1973) concluded that the potential impact of the no discharge requirement (eventually adopted for only those feedlots of over 1000 animal units) was not large even for the smaller feedlots. The estimated impact on the dairy industry was particularly small. It is significant that fully 30% of all dairy farms with 30 cows or less already meet the no discharge limit of EPA's feedlots effluent guideline. Seventy percent of farms with herds above 100 head meet the no discharge standard. I would also like to call your attention to Section 8 of the Act which amends the Small Business Act to authorize loans to small businesses which are "likely to suffer substantial economic injury" without such assistance. In our judgment it is infinitely better to assist farm operators, if such assistance is in fact needed, through small business and Department of Agriculture programs than to undercut badly needed environmental controls for the sake of short-run economic advantages.

In conclusion, what is badly needed now is strong guidance from you telling EPA to get on with the job. You have seen from the testimony of Assistant Administrator Legro yesterday that what EPA really wants, and what it is taking this opportunity to try to get, is nothing less than the discretion not to regulate whole categories of point sources by excluding them from control under the permit program. Such discretion would not only weaken the Act as applied to feedlots and other potent pollution sources but would create tremendous pressures for similar exemptions in other areas and would have other far-reaching and unfortunate ramifications. It would represent the initial unravelling of the carefully integrated water pollution abatement scheme so laboriously put together by Congress three years ago.

If our experience over these three years proves anything it is that tight, mandatory regulatory schemes are essential to securing EPA action and that EPA discretion not to regulate will be resolved in favor of not regulating. Moreover, preserving the Act's tight framework is not enough in itself. The history of EPA's efforts to address agricultural and silvicultural pollution over the past few years has been one of strident and well organized opposition from these industries. As a result EPA now wishes it could simply forget about point source pollution from these industries and certain others. What is needed, and what your Committees can provide, is strong support for an effective permit program in these critical areas.

Thank you for this opportunity.

Senator NELSON. You are not suggesting that they issue a permit to every feeding operation in the United States and call them all automatically point sources, are you?

Mr. SPETH. No. What I want to do now is to respond to some of the straw men which have been suggested. I think part of the problem goes back to the fact that EPA started out by saying that feedlots had to be regulated and we had 2 million feedlots.

Senator NELSON. What was that?

Mr. SPETH. EPA began indicating to the farmers of the country when it published its first materials on this a couple of years ago that all 2 million feedlots were going to be classified as concentrated animal feeding operations. That generated quite a backlash.

The second thing was that EPA in its effluent guideline proposed a no-discharge limit for the feedlots that it regulates. So what people across the country were faced with was a situation that looked like EPA was saying "no discharge" to all 2 million feedlots.

That has never been our position. I think EPA has done us a disservice by intimating as much. Yet we were faced yesterday with a prepared statement from EPA that still used that 1.5 million figure. We were very disappointed to see that.

Our position is that EPA has got to define "concentrated animal feeding operations."

Senator NELSON. There is no guideline in the statutes for that?

Mr. SPETH. As you said, there is no guideline in the statute. I don't think there need be. I think that is something which EPA is perfectly capable of doing if it puts its mind to it. I don't think that necessarily means all feedlots. I think the word "concentrated," as Congressman Reuss' subcommittee pointed out, can be usefully used, and I think in this definition there may have to be some recognition of the spatial relationship of the lot to the stream.

The other thing that has to be considered that is that it is the *details* of how the act is carried out, not these broad questions, which in our judgment will make it a good regulatory program or a poor one. In other words, what numbers are we talking about? How are we going to define "concentrated animal feeding operation" and what is the effluent guideline or what effluent restrictions are going to be used in the permits?

Are they going to use general permits which would allow broad treatment as opposed to individual permitting?

Those are things which we have to come to grips with, which we expect EPA to make suggestions on in the proposed regulations it has to come out with in the Federal Register, and which we want to have the opportunity to comment on in a considered way when these regulations are proposed in the Federal Register.

What we do want is some effective control on feedlot pollution. I think we can get effective pollution control out of the permit program and I think we can do it within the framework of the statute, but it doesn't do anybody any good for EPA to come here and start talking about 1.5 million feedlots and for all the economic analyses to be based on the assumption that we will have no discharge from all of those feedlots.

The act does not say that. It says "the best practicable control technology." It has been a tremendous concern to me that we are chasing these strawmen around again and again, and I say let's get down to work and get some good guidelines and get this problem behind us.

Senator NELSON. I am assuming, if I understand the intent of the law, including the Muskie-Dole colloquy, that they have the authority to define a "concentrated animal feeding operation." Where it may be I don't know, but they have that authority to define it in terms of the rest of the law as well as the colloquy. In other words, EPA can set a number defining a concentrated feedlot and then individually deal with those who become point sources, as was described by Senator Muskie, for example, in the colloquy question.

Isn't that correct?

Mr. SPETH. Yes. I suppose that there can be point sources from animal feeding operations which are not concentrated animal feeding operations——

Senator NELSON. Which would not meet the definition. If the stream runs right smack through the feedlot and the feedlot has as many animal units as are described by regulation as a concentrated feedlot, it would be a point source which would then have to be dealt with independently.

Do you agree with that?

Mr. SEPTH. Conceptionally I think that is proper. But I think far and away the better way to do it is to focus on defining "concentrated animal feeding operations." And I think we have to define this fairly broadly so it would really get at the feedlot pollution problem.

That is what we want to do. Then we have to examine what practicable ways there are in terms of regulating the discharges within that group. We should take economic impact into account, not in defining what is a concentrated animal feeding operation, but in defining the effluent limits.

I think the administrative burden issue can be resolved in at least two ways, and possibly others. One is by the use of a general permit, and the other by the increasing involvement of the States in this program, in the NPDES program. So I would say let's get out a definition of "concentrated animal feeding operation" which would give EPA and States the discretion to use the point source regulatory program of the act to solve the feedlot pollution problem.

That seems elementary to me. Then in exercising that discretion and in telling the concentrated animal feeding operators what they have to do, they have got to take economics into account. They have got to balance these things, and the act requires that.

For the life of me I cannot see why there is an uproar about doing that. I don't think there should be if people understood what was really going on under the act. I think there is a lot of misinformation and misunderstanding.

Senator NELSON. I think one of the problems, and I don't think it is an easily solved problem, is that EPA has not defined the term "concentrated animal feeding operation" as of this date.

Mr. SPETH. And they haven't told us what they will put in the permits either.

Senator NELSON. But the colloquy makes it clear, the definitional approach is the intent of the Congress. Now, somebody is going to have to say what is a concentrated feedlot. You may do it by numbers or numbers may be only one part of the total definition.

Now you heard the testimony of the Minnesota Pollution Control Agency. When you get down to handling this problem in terms of tens of thousands—in my State 52,000 dairy farms, in Minnesota

32,000 dairy farms—then it seems to me that the system that Minnesota was using, Soil Conservation Service, State pollution control boards, county agents, feedlot inspectors, all the people who have had lots of experience is the best. The Soil Conservation Service is the first Government conservation organization, I suppose, federally created in this country. It has done a tremendous job for a half-century in this whole business of drainage, water runoff. There is lots of experience there.

I am assuming once you establish some definition, that specific implementation and decisions about point source and so forth, utilization of best waste management practices, would be implemented and handled with the people who are already there and know what they are doing, not by some army of inspectors out of Washington. If the Federal Government were going to know it was doing, one would have to hire the people already out there to do it.

Mr. Speth. I think there is a lot in there. If all the States had agencies which were as good as some, both in this area and others, we probably would not need the Federal Government except for a few things like national defense. And you are raising a pretty tough problem of how do you best move the country.

Senator Nelson. Interestingly enough, I think that the best Federal programs in the country have originated from the land-grant colleges, the univeristy extension systems, and the Soil Conservation Service. All of these organizations have been very practical people working with scientists, technical people, and practical people in handling programs for over—well, land-grant college programs are 115 years old, or thereabouts.

So there is great expertise and experience there and I think it has to be utilized. Otherwise, the program can't work no matter what orders come out of Washington.

That is a rollcall. If I have some more questions, I guess I had better submit them to you, because we have not heard the EPA yet and I have 10 minutes to hear from EPA or I may have to try to arrange something again tomorrow.

I didn't hear from the Sierra Club.

Ms. Record. I don't have a written statement. I would be glad to prepare one and submit it to you later.

Senator Nelson. We would be glad to have one from you.

Ms. Record. I am here because the club is concerned about the serious problem and we feel the act as written allows the EPA to set up the regulations.

I would like to make the point that the club is very concerned that this law be implemented in such a way that the feedlot pollution problem be handled, because it is a serious one.

Senator Nelson. I assume you came down here instead of my old employee, Jonathan Ela, because you could make a more effective presentation.

Ms. Record. Absolutely, sir.

Mr. Hall. I am Richard Hall, from Friends of the Earth, and we stand on the statement of Mr. Speth and applaud it, and we also wish to support the statement of the Sierra Club that we believe it is a real problem and most of the discussion, we feel, on the part of the EPA here has not really conceived that, and that it is time to get on and try to meet the real problem also taking into consideration the real problems of the farming community as well.

We will stand on Mr. Speth's statement.

Thank you.

Senator NELSON. There is a question from Senator McClure. In making reference to your statement on page 6, the last sentence, first paragraph, saying, "Federal wildlife reserves have been adversely affected by feedlot pollution in Kansas, Texas, and Idaho," he wonders if you would be prepared to submit some documentation for the record.

Mr. SPETH. I certainly would. I would also like to submit two other documents for inclusion in the record. One is a fairly long monograph entitled "How Now, Brown Cow: Regulating Feedlot Pollution in Wisconsin." It is a very scholarly piece.

Second, the statement of David Hawkins before the Select Committee on Nutrition and Human Needs, which addresses the serious problem of carcinogens in animal feeds and in animal discharges. I could provide these materials as well as a description in response to Senator McClure's questions for the record.

Senator NELSON. If you would please. They will be printed at this point in the record.

[The documents referred to follow:]

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David Sive

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U.N. Representative

John H. Adams
Executive Director

October 29, 1975

The Honorable Gaylord Nelson
United States Senate
Washington, D. C. 20510

Dear Senator Nelson:

At hearings on feedlot pollution before the Senate Select Committee on Small Business on October 22, 1975, I requested permission to submit certain documents for inclusion in the record of the hearings. These documents are enclosed. Also, you asked at the conclusion of my testimony if further documentation could be provided regarding the effects of feedlot pollution on federal wildlife refuges in Kansas, Texas and Idaho. Such information can be found in the Report of the House Government Operations Committee, "Control of Pollution from Animal Feedlots and Reuse of Animal Wastes," 93rd Congress, 2d Session (April 25, 1974), at page 10, and in the Statement of Dr. Charles M. Loveless, Acting Associate Director, Fish and Wildlife Management, Bureau of Sport Fisheries and Wildlife, U. S. Department of the Interior, printed in Hearings before the Conservation and Natural Resources Subcommittee of the House Government Operations Committee, "Control of Pollution from Animal Feedlots," 93rd Congress, 1st Session (1973), at pages 71-73.

Thank you for this opportunity to provide these materials for the record.

Sincerely,

J. G. Speth

Enclosures

HOW NOW BROWN COW:
REGULATION OF FEEDLOT POLLUTION IN WISCONSIN

C.E. Blackwell III
May, 1974

Introduction

Over the last decade, the American public has become increasingly concerned with the problems of environmental pollution. Attention has been focused primarily on the areas of industrial and municipal waste pollution. However, in rural regions, pollution from agricultural sources is also a crucial concern.

Agricultural pollutants affect all phases of the ecosystem. Wind erosion of topsoil and careless use of pesticides add significantly to air pollution. Odors from fertilized fields and commercial feeding operations also contribute to air pollution. Water quality is impaired by soil erosion in four ways: (1) It causes silting and muddying of water supplies; (2) It adds harmful pesticides that can create poisonous mixtures in water sources; (3) It causes overfertilization of bodies of water through the addition of fertilizers and animal manure; and (4) With the addition of fertilizers and/or waste products to bodies of water, serious health hazards arise from the multiplication of bacteria.

This paper will deal specifically with water pollution caused by runoff from concentrated animal feeding operations and with the legal steps which are being taken to abate this source of pollution.

"Feedlot" is a term with a large number of different meanings. In this paper, "feedlot(s)" shall mean concentrated animal feeding operations for the raising, feeding, and holding of beef cattle, dairy cattle, hogs, sheep, and poultry. The physical characteristics of feedlots vary considerably. For purposes of this paper, all but open pasture feedlot management systems shall be included in the term "feedlot." This exception is required because of the general understanding that such operations are considered to be non-point sources of pollution, and therefore not subject to federal control under the Federal Water Pollution Control Act Amendments of 1972.[1] Some examples of feedlots in the beef cattle industry are operations for the raising of cattle for sale in an area in which feed must be supplied to the cattle; in other words, where animals exist in a high enough concentration to make grazing on natural or cultivated ground cover either impracticable or impossible. The cattle may be confined in a large unpaved area from which the manure should be disposed after collection on a regular basis. Alternatively, the cattle may be kept in an area that has been paved and is either roofed or open. It must be understood that an agricultural operation which encompasses both crop and animal production will be considered a feedlot, at least to the extent of the animal production area. Some common synonyms for "feedlot" are "concentrated animal feeding operation," "animal pen," "animal yard," "feed yard," "feed pen," and "farm."

The pollution problem from feedlots arises from the inadequate disposal of animal wastes from the areas in which the animals are confined. In times of heavy rain, water may run through a confinement area and sweep manure and other animal wastes into nearby rivers and lakes. This runoff is high in nitrogen, phosphorus, magnesium, potassium, and sodium. Such chemicals and their compounds accelerate the eutrophication process in rivers and lakes. Eutrophication, the natural aging process of bodies of water, is accomplished by the filling in of a body of water by sediments. The sedimentation comes from the death of organic matter such as algae blooms caused by excessive nutrification of lakes and the settling of silt swept from surrounding ground. As the algae decompose, they rob the water of oxygen needed to support fish and other animal life. Eventually the body of water will become a swamp and finally solid land, completing the life cycle of the lake.

Another problem caused by runoff from animal feedlots is related to the health of those using water contaminated by such runoff. Feedlot runoff may contain, in quantities large enough to affect human and other animal life, bacteria such as fecal coliforms, fecal streptococci, and Salmonella.[2] Typhoid, dysentery, and infectious hepatitis are diseases whose transmittal to humans may in some cases be attributed to bacteria carried by runoff from feedlot sources.[3] Runoff from feedlots has resulted in the temporary closing of at least one federal recreation area because of the detection of excessive bacteria counts which would be dangerous to human health.[4] The contamination of wells by nitrates from feedlots has been documented in Illinois. A study by Dr. Abraham Gelperin of infant deaths draws a correlation between nitrate contamination of drinking water and death rates for female infants.[5]

Pollution from feedlot runoff has resulted in a number of serious fishkills. Two examples of fishkills are one occurring in Fulton County, Indiana in late 1971 or early 1972 caused by discharge of runoff from Tinkey Farms, Inc.,[6] and another at

Nine Mile Creek near Minatare, Nebraska on January 16, 1974 from a discharge of contaminated runoff by American Beef Packers, Inc. of Omaha.[7]

The extent of health and potential pollution problems can be seen most clearly when one considers that the total yearly output of animal manure in the United States, when dried, amounts to approximately two billion tons. This is equivalent to the amount of coal mined annually in the United States, or to the amount of oil pumped in the continental United States during one year.[8] On a smaller scale, the waste output for various animals can be equated to that of humans as follows: 1 cow equals 10 people, 1 hog equals 2 people, and 7 chickens equal 1 person.[9]

In most cases, the problems caused by runoff from feedlot sources can be prevented or at least diminished by institution of better management practices. Many farmers are unaware of the pollution potential of their feedlots. A good nationwide education program on the pollution potential and remedies within the economic reach of farmers could go far towards the alleviation of this source of water pollution. The Environmental Protection Agency has recognized the need for gathering information concerning sound management practices for the feedlot industry. A publication of its Region X office entitled Cattle Feedlots and the Environment discusses the need for and success of careful site selection for feedlot operations in order to protect the environment. The pamphlet stresses the need to consider factors such as geography, soil types, climate, and proximity to water for environmentally safe site selection. If incorporated into the decision-making process of where to locate a feedlot, these considerations could inexpensively reduce the pollution potential of new feedlots.[10]

For existing feedlots, the most practical and safest method for disposal of manure is the recycling of it to adjacent fields and open land. If this is not done in a programmed fashion, however, this practice may result in severe water pollution caused by runoff from the spreading area after heavy rains.[11] The technology and conventional learning are developed to a point where, if applied, spreading of manure can be accomplished without adverse environmental effects. Certain common sense steps should be followed in the return of manure to open land. One should not spread manure on land with steep slopes. Also, spreading manure on frozen land in a manner that would allow the manure to be washed into watercourses during the spring thaw and in rain events prior to the thaw of the land should be diligently avoided. In its publication entitled _Methods and Practices for Controlling Water Pollution from Agricultural Nonpoint Sources_, the EPA outlines various environmentally safe practices for the spreading of manure. The suggested methods range from inexpensive changes in plowing and tilling practices, i.e. plowing perpendicularly to the line of gravity rather than parallel or diagonally to it, to quite expensive terracing of farm lands and the institution of extensive drainage systems. When manure is applied to the land in connection with practices like these, there should be little threat of water quality degradation except in the most extreme climatic conditions.[12]

For feedlots that cannot make efficient use of the above described management practices, various government agencies have been doing research on alternative methods for the recycling of animal wastes. The Department of Agriculture has been studying the feasibility of recycling animal wastes back through the food cycle of the animals. This is accomplished by drying the manure and removing the harmful components of the waste from it. The remainder is then added to existing feed supplies for a protein-rich supplement.[13] The Department of the Interior's Bureau of Mines has been working on converting animal wastes into various energy products, primarily oil and gas.[14] The Department of the Army has recently announced that it is perfecting a method of changing organic wastes, including animal wastes, into ethyl alcohol. This process is expected to be commercially feasible within the next five years.[15] Though these and other projects are still in the research stages, they show great potential for the efficient recycling of animal wastes.

In states such as Wisconsin, the conflict between maintenance of water quality and efficient utilization of prime agricultural land is particularly acute. Excluding the Great Lakes, Wisconsin contains approximately 1,137,000 acres of surface waters, which constitute 3.1 percent of the total surface of the state. In addition, the state has more than 34,000 miles of streams.[16] The recreation industry in Wisconsin, which is heavily dependent upon a high standard of water quality, is expected to bring approximately 2.2 billion dollars of revenue into the state in 1974. Farming, on the other land, which occupies 18,109,000 acres of the state, is expected to net about 2 billion dollars.[17] Thus, in order to protect the increasingly lucrative recreational industry, pollution performance standards for the agricultural sector must be established and enforced. Such standards have been set up on the federal state, and local levels.

Federal Controls: The Rivers and Harbors Act of 1899

Prior to 1972, the only federal legislation to deal with discharges of agricultural waste was the Rivers and Harbors Act of 1899.[18] Section 13 of the Act, commonly known as the Refuse Act of 1899, states:

> It shall not be lawful to throw, discharge, or deposit, or cause, suffer, or procure to be thrown, discharged, or deposited either from or out of any ship, barge, or other floating craft of any kind, or from the shore, wharf, manufacturing establishment, or mill of any kind, any refuse matter of any kind or description whatever other than that flowing from the streets and sewers and passing therefrom in a liquid state, into any navigable water of the United States, or into any tributary of any navigable water which the same shall float or be washed into such navigable water....[19]

Congress envisioned the necessity for making certain exceptions to this rule for the purposes of alleviating burdens on interstate commerce and providing for the rational development of the water resources of the United States. Therefore, it empowered the Secretary of the Army, upon advice of the Chief of Engineers, to

> ...permit the deposit of any material above mentioned in navigable waters, within limits to be defined and under conditions to be prescribed by him [Chief of Engineers], provided application is made to him prior to depositing

> such material; and whenever any permit is so granted the conditions thereof shall be strictly complied with, and any violation thereof shall be unlawful.[20]

The mechanics of the permit system were not set up by the Army Corps of Engineers until seventy-five years later, on April 9, 1971, pursuant to Executive Order No. 11574 of December 23, 1970.[21] There are several exceptions to the permit requirement under the 1971 regulations, but discharges from agricultural sources are not exempted.[22] Two suits concerning agricultural pollution sources have been instituted under the Refuse Act. One was settled by a consent decree; the other resulted in a $1000 fine.[23]

The Federal Water Pollution Control Act Amendments of 1972 have now preempted the bringing of such actions under the Refuse Act. However, the EPA feels that certain types of actions, such as those dealing with the inefficient spreading of manure on land in a manner which may result in the washing of those deposits into navigable waters, may still be brought under the Refuse Act.[24]

Federal Controls: The Federal Water Pollution Control Act Amendments of 1972

In October, 1972, Congress passed the Federal Water Pollution Control Act Amendments, which essentially took over the permit program suggested in the Refuse Act of 1899.[25] Section 402 of the 1972 Act establishes the National Pollutant Discharge Elimination System (NPDES). Under this section, the Administrator of the Environmental Protection Agency may allow the discharge of pollutants despite the provision of Section 301(a), which states that "... the discharge of any pollutant from any point source by any person shall be unlawful."[26] Such discharges may be allowed if they meet the standards set forth in Sections 301, 302, 306, 307, 308, and 403 of the Act. Section 402 establishes the permit system for the control of discharges of pollutants from point sources. The term "discharge of a pollutant" is defined in Section 502(12) as "any addition of any pollutant to navigable waters from any point source." "Pollutant," as defined in Section 502(6), includes, among other substances, "agricultural waste discharged into water." Section 502(14) defines the term "point source" to include, among other sources of discharges, "concentrated animal feeding operation[s]."

The entire control apparatus of the FWPCA of 1972 is intertwined with the concept of the point source. In general terms, point sources are objects such as pipes, ditches, and other readily identifiable outlets for effluents. A non-point source, on the other hand, is an open area from which a single source of discharge would be impossible to identify. Examples of non-point sources are farm land used for the cultivation of crops, forest lands, and construction areas.[27] One may speculate as to why concentrated animal feeding operations were included as point sources when their physical characteristics seem to be more like those of non-point sources. However, such speculation is fruitless since Congress specifically enumerated feedlots as point sources.[28] The distinction between point and non-point sources is crucial for control under the

FWPCA. Non-point sources do not fall within the ambit of the permit system, the principal enforcement mechanism of the Act. In fact, non-point sources are only discussed in the context of identifying their existence and location and the research needed to control pollution from them.[29] Point sources, on the other hand, are subject to all controls and limitations of the FWPCA.

On December 22, 1972 and May 22, 1973, the EPA promulgated regulations for the issuance of permits under Section 402 by the states and the EPA, respectively. Both sets of regulations state that all "discharges of pollutants ... from all point sources are unlawful ... unless the discharger has a permit."[30] On July 5, 1973 the EPA promulgated regulations amending those of December 22 and May 22 by excluding large segments of the agricultural point source category from the requirement of permit application. The July 5th regulations require permit applications only for those feedlots which, for any thirty day period within the prior twelve months, have exceeded the following quotas:

Type of animals	Number
Slaughter & feeder cattle	1,000
Mature dairy cattle (milker or dry)	700
Swine over 55 pounds	2,500
Sheep	10,000
Turkeys	55,000
Laying hens and broilers in confinement facilities with continuous overflow watering	100,000
Laying hens and broilers in confinement facilities with liquid manure handling systems	30,000
Ducks	5,000

Permits are also required of point sources otherwise excluded from the requirement if they are considered by the EPA or the appropriate state or interstate water pollution control agency to be "a significant contributor of pollution."[31] In fact, Section 510 of the FWPCA allows the states to make their own determinations of pollution criteria in the event that state officials conclude that federal controls are insufficient to meet local pollution requirements.[32]

In the preface to the July 5th regulations, the Administrator claims discretion to exempt certain categories of point sources from the necessity of acquiring a permit under Section 402. He infers this discretion from the language of the same section: "... the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding Section 301(a)...."[33] (emphasis added) In the notice preceding the July 5th regulations, the Administrator indicates his reasons for invoking his discretion: "The basis for the exclusions is that the pollution problems caused by the excluded categories of point sources are minor in relation to the administrative problems of processing vast numbers of agricultural discharge application forms."[34]

In an internal memorandum, EPA Associate General Counsel Robert V. Zener derives the basis of the Administrator's discretion from the reference to Section 402 in Section 301(a).

> The reference to section 402 clearly means that where the Administrator stands ready to entertain an application from a point source, that point source must obtain a permit. But if the

> Administrator announces that he will not entertain applications from farms, it could hardly be argued that a farm discharge was not in compliance with section 402.[35]

The effect of Mr. Zener's argument is diminished by the last sentence of his memorandum, which reads:

> However, an administrative exclusion of farm point sources (other than feedlots) should be sustainable if it can be shown that the pollution problem is minor in relation to the administrative problems involved, or that the permit program would be an ineffective mechanism for controlling a particular category of sources.[36] (emphasis added)

This statement, which clearly demonstrates Mr. Zener's feeling that feedlots could not be excluded from obtaining a permit, is evidently based on the specific enumeration of "concentrated animal feeding operations," i.e. feedlots, as point sources in Section 502(14) of the FWPCA.

The Administrator's actions in this regard have come under strong criticism from both the Natural Resources Defense Council and the House of Representatives Subcommittee on Conservation and Natural Resources of the Committee on Government Operations. The NRDC filed suit against the EPA in Federal District Court in Washington, D.C., on October 19, 1973. In paragraph 21 of the NRDC brief, it is contended that the exclusion of certain categories of point sources, including feedlots, from the permit program is illegal because neither the Act nor Congressional intent gives the Administrator "... discretion to exclude some point sources from the NPDES altogether which EPA deems relatively less important or administratively difficult to deal with." Alternatively, if the Administrator does have the discretion to exclude some point sources from the permit program, his actions are "arbitrary, capricious, an abuse of discretion and without rational basis ...." The alleged abuse of discretion arises from the Administrator's failure to adequately weigh the congressional intent that the EPA's control extend to "... at least that segment of the industry causing the more significant pollution problem ...." The Administrator has also neglected to take into account the congressional intent that authority to issue permits under Section 402 be transferred to the states, whose administrative structures may be more efficiently or appropriately organized to deal with large numbers of permit applications. Such transfers were designed to relieve the administrative burdens to which the EPA attributes the necessity of these point source exclusions.[37]

The House Subcommittee on Natural Resources has also expressed dismay at the EPA exclusions for feedlot point sources. On June 25, 1973, Congressmen Henry S. Reuss (D-Wis.) and Guy Vander Jagt (R-Mich.) sent a letter to Robert W. Fri, Acting Administrator of the EPA, challenging, among other things, the Administrator's claim of discretion in this matter. With regard to the Administrator's interpretation of Section 402(a)(1), the Congressmen "... find this contention quite startling, novel, and strained." They assert that, if carried to its logical extreme, the Administrator's interpretation would render the purpose and intent of Section 301(a) inoperative. Recognizing that Section 301(a) makes illegal the discharge of any pollutant from a point source, Congress created NPDES so as to allow discharges of pollutants if they meet standards specified in Sections 301, 302, 306, 307, 308, 318, and 404 of the Act. The Congressmen conclude that the word "may" in Section 402(a)(1)

> ... simply authorizes EPA to issue permits to those who comply with the specified requirements, and to refuse to issue permits to those who do not or cannot comply with those requirements. It does not in any way give EPA authority to determine whether all or some point sources must apply for a permit ... nor does it authorize EPA to ... legitimize an unlawful discharge.[38]

The Congressmen recognize that in some instances the Administrator is given discretion; however, these grants apply to certain specified provisions, which are not relevant here. The Congressment also concede that the Administrator has some discretion to define the limits of a "concentrated animal feeding operation," a term which is not specifically defined by the FWPCA.

The Congressmen make reference to a discussion between Senators Robert Dole and Edmund Muskie as to what Senator Muskie, the sponsor of the FWPCA in the Senate, considered to be general criteria for including an animal feeding operation within the permit program. In response to Senator Dole's request for clarification of the terms "point source" and "nonpoint source," especially as related to agriculture, Senator Muskie stated that

> The present policy with respect to the identification of agricultural point sources is generally as follows:
>
> First. If a man-made drainage ditch, flushing system or other such device is involved and if measurable waste results and is discharged into water, it is considered a 'point source.'

> Second. Natural runoff from confined livestock and poultry operations are not considered a 'point source' unless the following concentrations of animals are exceeded: 1,000 beef cattle; 700 dairy cows; 290,000 broiler chickens; 180,000 laying hens; 55,000 turkeys; 4,500 slaughter hogs, 35,000 feeder pigs; 12,000 sheep or lambs; 145,000 ducks.
>
> Third. Any feedlot operation which results in the direct discharge of wastes into a stream which traverses the feedlot are considered point sources without regard to the number of animals involved.[39]

In his first and third criteria, Senator Muskie made no reference to numbers of animals as being requisite for a feedlot's inclusion as a "point source." In his second criterion, Senator Muskie differentiated between classes within a point source by setting a maximum number of animals for inclusion of a given feedlot in the permit system. The figures which he cited were not ones that he or his staff had arrived at independently, but those reflecting EPA policy at that time. Congressmen Reuss and Vander Jagt insist that "He did not, of course, specify or intend that EPA should be bound by, or adhere to, these minimum numbers."[40] The Congressmen conclude their letter by asserting, once again, that the Administrator's decision to exclude certain categories of point sources is unlawful because of an erroneous interpretation of Section 402(a)(1) of the Act. They also feel that the Administrator has stepped beyond the bounds of his authority in defining "concentrated animal feeding operations" in reference to the alleged administrative burden on EPA of processing applications from all feedlots, and not in terms of the pollution problem caused by the excluded categories.[41]

There is clear evidence that the EPA has overlooked the serious water pollution contributed by the small feedlots excluded from the EPA permit program. On January 10, 1973, Secretary of Agriculture Earl Butz wrote the Administrator of the EPA, indicating his views as to the minimum number of animals on a feedlot necessary for that feedlot to be considered a "concentrated animal feeding operation" for purposes of the permit program. Secretary Butz's suggestions are considerably lower than those presently required by the EPA. Specifically, they are:

Type of animals	Number
Slaughter steers or heifers	300
Dairy cows	200
Broilers	35,000
Laying hens	32,000
Turkeys	10,000
Butcher hogs	1,200
Feeder pigs	10,000
Sheep	2,300[42]

The EPA has given no indication as to why it has disregarded Secretary Butz's recommendations. The House Conservation and Natural Resources Subcommittee staff memorandum of November 19, 1973 gives the impression that the Subcommittee believes that Butz's figures represent a much more realistic appraisal of the pollution problem than do the figures of the EPA.

In support of its argument, the subcommittee memorandum cites the policies of various states with regard to their numerical criteria for defining "concentrated animal feeding operations." For instance, North Dakota requires only 300 feeder cattle or 200 animal units to qualify for a state permit. Nebraska, like California and Indiana, does not have a fixed quota; its water quality agency states, "Small operations can be just as significant contributors of water pollution as larger operations; therefore, capacity numbers are not used."[43] Because the state agencies deal more closely with the problem than does the EPA, their policies are apt to reflect a better understanding of the statutory limitations needed for effective water pollution abatement and prevention.

Both the EPA and the Department of Agriculture have commissioned reports on the environmental and economic effects of runoff from feedlots. In a draft copy of Development Document Guidelines and Standards of Performance, Feedlot Industry, prepared in June, 1973 by Hamilton Standard (a division of the United Aircraft Corporation), no distinction is made between large and small feedlots in terms of the need to eliminate pollution from such sources. The report states

> ... that no discharge of wastes to navigable waters be allowed after 1 July 1977 for existing feedlots and immediately for all new feedlots for the animal types: beef cattle, dairy cattle, swine, chickens, turkeys, sheep, and horses. This elimination of discharge would be achieved by the recycling of wastes to land for efficient utilization as moisture and nutrients by growing crops.[44]

The Department of Agriculture's Economic Research Service, in a series of reports on the economic impact of controlling surface water pollution from various feedlot sources, includes statistical information on the scope of the pollution problem.

In the case of fed-beef operations, the ERS states that 49,000 such operations in the eighteen major beef-feeding states have point source surface water pollution control problems. 10,000 of these operations have concentrations of animals in excess of 100 head.[45] It is estimated that for these top eighteen states, a mere 610 fed-beef operations will be required to apply for permits under the EPA guidelines.[46]

In the case of dairy farms, ERS indicates that forty percent of such operations have surface runoff pollution problems. ERS further states that with regard to dairy farms there is no significant correlation between herd size and the percentage of farms with pollution problems.[47] The EPA regulations now in effect require permits of only those dairy farms with more than 700 head of cattle. EPA thereby ignores the fact that fifty-five percent of the dairy cattle in the eight leading dairy states are found on farms with concentrations of twenty to forty-nine head. A mere five percent of the dairy cattle in these top eight states are located on farms with concentrations of 100 or more cattle.[48]

In its report on hog-feeding operations, ERS reports that in the fifteen leading hog producing states, approximately 112,000 farms, or 22 percent of the total in those states, have significant pollution problems. Of these, over 95,000 farms have 500 or less hogs.[49] The EPA regulations require permits of farms with concentrations in excess of 2,500 hogs. In the top ten states, farms with over 1,000 hogs represented only 13.06 percent of the marketed hogs.

In contrast, 68.54 percent of all marketed hogs in the ten leading states came, in 1969, from farms with less than 500 hogs.[50]

Several states have indicated that the major problem with feedlot pollution comes from categories that have been excluded from the EPA regulations. The Iowa Department of Environmental Quality states that "livestock feedlots represent the largest source of uncontrolled point source waste discharges into Iowa streams" and that the "EPA guideline will not cover most of the feedlot operations in the State of Iowa which pollute or which have the potential for polluting Iowa's waters...."[51] Indiana feels that the EPA guidelines are set unrealistically high for effective management of feedlot pollution:

> ... it has been the experience of this office that the pollution problem is by no means confined to a few of the largest operations in the State. On the contrary, these operations many times are better designed and employ a higher degree of management, and consequently, have less pollution potential than the smaller operations.[52]

In an EPA report of August, 1973 entitled "Economic Analysis of Proposed Effluent Guidelines, Feedlots Industry," it is stated that up to four-fifths of cattle feedlots in the United States with concentrations of fewer than 500 head of cattle have surface water pollution problems. However, only twenty to thirty percent of feedlots over 1000 head do not meet the proposed effluent guidelines. In other words, the EPA is requiring permits from a category, two-thirds of which poses no pollution problem, while allowing a category with as low as twenty percent compliance to escape regulation.[53]

The EPA guidelines do not take environmental factors into consideration in other important ways. The guidelines make no attempt to control independent adjacent feedlots that may total over the 1000 animal unit minimum.[54] This gap in EPA coverage poses significant pollution problems in areas with large numbers of medium sized feedlots. Thus an entire river basin can escape EPA regulation.

Secondly, EPA's guidelines do not make distinctions between feedlots as to their proximity to water sources. A feedlot with 500 head of cattle that is 200 feet from a river may very well pose a much more severe pollution problem than a feedlot with over 1000 head that is located a mile away but still has a minor discharge.

Thirdly, the EPA regulations do not take into consideration such variables as soil type, amount of precipitation, and local geography. Yet, in its April, 1972 report on Cattle Feedlots and the Environment, Regional Office X of the EPA itself considered these to be crucial factors in sound animal feedlot pollution planning.[55]

A fourth deficiency of the EPA regulations involves Section 308 of the Federal Water Pollution Control Act, which provides for a system of monitoring and inspection to ascertain the extent of compliance, the quality of the discharge, and any further information which could be helpful in the abatement of water pollution. For practical purposes, this system was apparently set to work in conjunction with the permit program.[56] Thus, if EPA excludes large numbers of feedlots from the permit program, it will lose the benefits of a large information-gathering program.

In paragraph three of the July 5th regulations, the EPA indicated that despite the exclusion of smaller feedlots from the requirement of obtaining a permit, they would still be required to meet all other standards and guidelines set forth in the FWPCA and in regulations promulgated thereunder.[57] On September 7, 1973, the EPA published proposed effluent guidelines and new source performance standards for the feedlot point source category. These guidelines were to apply to all point sources in the feedlot industry, whether or not they were required to file for a permit under the July 5th regulations.[58] This proposal created widespread alarm in the feedlot industry. The EPA apparently received so much criticism concerning this decision that on October 1st and 15th, EPA's Assistant Administrator, Robert L. Sansom, notified all EPA regional offices of the agency's intent to require only those feedlots which must file for permits to meet the proposed effluent guidelines. This intent was carried out when the final effluent guidelines and new source performance standards were promulgated on February 14, 1974.[59] When viewed in connection with Section 301(a) of the FWPCA, EPA's exemption of small feedlots from the effluent guidelines can only be seen as inadvisable. The legality of the EPA's exemptions is questionable because of the apparent contradiction between Sections 301(e) and 304(b). Section 301(e) calls for the application of effluent limitations to all point sources, regardless of class or category, while Section 304(b) allows the Administrator to distinguish between such classes or categories in the development of effluent limitations.[60]

Regardless of the extent of the pollution problem caused by feedlots excluded from the EPA guidelines, the EPA has not shown that there will be an excessive administrative burden placed upon it by setting lower minimum figures for animal concentrations. The Bureau of the Census animal statistics indicate that the EPA would not necessarily be swamped with applications should the limits be lowered. The following tables give an idea of the increases in numbers of applications which may be expected should the minimum numbers be lowered:

Minimum Number of Animals	Estimated Number of Applications
Dairy cattle	
700	308
630	367
560	486
490	645
420	839
350	1120
Ducks	
5000	150
4500	180
4000	200
3500	210
3000	220
2500	230[61]

The number of anticipated applications from the dairy cattle industry would quadruple if the present minimum number of 700 was changed to 350, but when one considers that the applications would be divided among the ten regional offices of the EPA and in some instances submitted to state water pollution control agencies, rather than to the EPA itself, the figures may be seen in more accurate perspective. In the FWPCA, Congress did provide the EPA with a method for relieving the administrative burden of accepting large numbers of applications. Section 402(b) expects the states to assume responsibility for the permit program. Once a state has applied, "The Administrator shall approve each submitted program unless ..." he determines that there exist administrative deficiencies in it which would abrogate any of the provisions of the FWPCA. Virtually all of the states with major feedlot problems have either submitted applications or have expressed their intention to do so.[62] The granting of such permit authority would allow the states, which have proportionally larger staffs than the regional EPA offices, to administer and enforce the provisions of the FWPCA. In addition, the state staffs have a greater network of people to assess the pollution problems on a local level.

In promulgating the July 5th regulations concerning minimum concentration limits for animal feedlots, the EPA apparently did not take into consideration the provision of Section 402(b) for passing administrative responsibility for the permit program to the states. Had the EPA recognized the potential value of the states' administrative resources, it would presumably have established criteria more in keeping with stricter pre-existent state criteria.

Other Federal Agency Action

The Department of Agriculture has compounded the problem of agricultural point source pollution by its emphasis on chemical rather than organically made fertilizers.[63] This is especially important in a time when, because of the energy crisis, there exists a shortage of chemical fertilizers. The Department of Agriculture has further aggravated the pollution problem by failing to expand its rural environmental assistance program, now known as the Rural Environmental Conservation Program, to include cost sharing programs to provide financial aid for the purchase of mechanical devices for the spreading of manure in environmentally sound ways. RECP currently limits cost sharing relief solely to the building of manure storage facilities.

Even the Office of Management and Budget has compounded the feedlot pollution problem. Recently, it reduced the funding for the Department of the Interior's Bureau of Mines by an amount exactly equaling the figure appropriated by Congress for a program to research the feasibility of converting animal manure to gas and oil. The initial report resulting from this research, completed before the current energy shortage, indicated that the gasification of manure could be accomplished in significant quantities at a slightly higher than competitive price.[64] It is difficult to estimate, but one could conclude that the costs would now be considered both reasonable and competitive.

Wisconsin Regulations

As noted previously, most states with significant feedlot operations have applied or expressed their intention to apply for final permit authority under Section 402(b) of the FWPCA. Wisconsin has applied for and received final authority to administer the NPDES program through its state water pollution control agency, the Department of Natural Resources. While Wisconsin does not have a large problem with fed-beef feedlots, it does have problems or the potential for significant pollution from dairy and hog operations. The state of Wisconsin has long been considered a leader among states interested in environmental affairs. However, as regards pollution from feedlot sources, the state seems to have had little success in its legislative and administrative attempts to deal with the problem.

In 1965, Wisconsin passed amendments to Chapter 144 of the Wisconsin Statutes, of which Section 144.025 gives the state broad enforcement capabilities. These amendments give the Department of Natural Resources the power to issue general, special, and temporary emergency orders for the maintenance of water quality.[65] In 1967, Wisconsin established interstate water quality standards pursuant to the 1965 Federal Water Quality Improvement Act. Wisconsin issued water quality standards for intrastate waters in 1968.[66] Using the language of Section 144.025(2)(d)1, DNR has issued four special orders to feedlot operations ordering compliance with applicable water quality standards. The following table indicates the status of these orders:

Entity	Date Issued	Status
Budding Processing Co., Fall River	9-24-70	Order satisfied
Cold Comfort Farms, Blue Mounds	10-13-71	Closed
Hennesey Brothers Feedlot, Dodgeville	10-13-71	Under construction
Wisconsin Land & Cattle, Mount Horeb	9-03-71	Closed[67]

In December, 1971, the Department of Natural Resources proposed rules for animal waste management.[68] These were to give the Department guidelines for the issuance of orders under Section 144.025. The rules sought to set high standards for the disposal and waste management practices of the farming industry in Wisconsin. Public hearings were held on the proposed rules in early 1972. The public reaction against the rules was vigorous enough to require several changes in the proposed rules. The amended proposal was presented to the Natural Resources Board on December 8, 1972.[69] While the amendments to the proposed rules were being formulated, the Federal Water Pollution Control Act Amendments of 1972 were passed. The Department of Natural Resources decided to discard its proposed guidelines in favor of seeking permit authority to administer the NPDES. On July 21, 1973, Chapter 74, Laws of Wisconsin, Statute 147 was published. This law authorized the state to seek permit authority from the EPA under the FWPCA of 1972.[70] It also made most of the changes in Wisconsin law which were necessary to make it consistent with the requirements of the federal Act.[71] In September, 1973, the legislature passed revisions in the state water quality standards to bring the state into full compliance with federal requirements.[72] On November 7, 1973 Wisconsin submitted its application to the regional EPA office seeking permit authority. On December 18, 1973 the required public hearing was held, and on February 4, 1974 Wisconsin was granted final permitting authority by the EPA.[73]

The Wisconsin legislature is dominated by representatives of the agriculture industry. The effect of their control is seen in Statute 147.021, enacted on July 21, 1973:

> All rules adopted by the department pursuant to this chapter as they relate to point source discharges, effluent limitations, water quality related limitations, municipal monitoring requirements, standards of performance and toxic and pretreatment effluent standards shall comply with and not exceed the requirements of the federal water pollution control act amendments of 1972, P.L. 92-500, and regulations adopted pursuant thereto.[74]

This provision was enacted despite Section 510 of the FWPCA, which allows states to make rules or regulations which are more stringent than those decreed by the EPA.[75]

Section 147.021 was probably passed in reaction to the much stricter proposed rules for animal waste management and in light of the lenient EPA regulations promulgated on July 5, 1973. The provision will severely handicap the Department of Natural Resources' attempts to deal with feedlot pollution in any meaningful way since it is estimated that of the approximately 106,000 farms in Wisconsin,[76] only 100 farms will be required to seek permits under the numerical guidelines set by the EPA and endorsed by the Wisconsin legislature.[77]

Of the 57,864 dairy farms in the state, 57,542 (99.5%) have animal concentrations of less than 100 head.[78] This leaves 322 farms in the "100 or over" category, many of which still do not contain sufficient concentrations of cattle to qualify for permits under the EPA's 700-head criterion.

In spite of this limitation, the DNR, perhaps over-optimistically, hopes to make considerable use of the "significant contributor of pollution" designation.[79] The use of this language will be difficult to control because of the failure of the EPA to give any definition for the phrase or to suggest any guidelines for its application. The Wisconsin legislature also neglected to define the term, and the DNR has not yet proposed a definition under which it would seek to expand its permitting authority.

The Wisconsin legislature's actions in severely limiting the authority the DNR will have to deal with feedlot pollution will have disastrous results for the quality of the state's lakes and rivers. Because of the legislature's neglect of its responsibility, the main thrust of water quality protection now lies with the counties.

Walworth County Regulations

The differences in political and economic constituencies within separate counties will result in a crazy-quilt pattern of legislation regarding the feedlot pollution problem. In counties with heavily agricultural populations, legislation can be expected to be less restrictive than in those counties with less rural populations. Walworth County, a semi-rural region located in southeast Wisconsin, is one county which is viewed by many to be dealing effectively with agricultural pollution. Officials there have realized the importance of maintaining natural water quality for the benefit of its citizens, both for personal recreation and for the potential its water resources offer as tourist attractions.

County authorities have used a three-tiered approach in their attempts to control runoff pollution from feedlots. The proximity of these officials to the farming population enables them to readily ascertain which farms have pollution problems. The first contact with a farmer whose land has been identified as a pollution source is to inform him of more efficient management practices and technology. In most cases, this educational step is sufficient to remedy the problem. County officials indicate that the farmers are as concerned as is the general populace about the pollution problem and that they are generally willing to institute good animal waste management practices.[80] If the educational approach fails to correct a particular problem, the county may then threaten the individual with a lawsuit to require his compliance with county pollution and health ordinances. This step has not yet failed to gain compliance in Walworth County. If an individual should persist in polluting, however, the county would move to prosecute him. Currently, the county may proceed under two ordinances. The very broad language of Section 2.6, Paragraph 1 of the county's Sanitary Ordinance of September, 1966 reads as follows:

> No person, firm, or corporation shall discharge or permit the discharge at any point onto any land into any lake [,] watercourse ... any materials of such nature, quantity, noxiousness, toxicity, or temperature which can contaminate, pollute, or harm the quantity or quality of any water supply; or cause the emission of dangerous or offensive elements so as to injure or damage persons or property.[81]

Sections 2.9 and 8.5 of the county's Shoreland Zoning Ordinance of January 12, 1971 make general prohibitions against the discharge of solid and liquid materials that would pollute the waters of the county, thereby violating state water quality standards.[82] Presumably, discharges of solid and/or liquid animal wastes from feedlot surfaces are prohibited by these sections. In addition, Section 2.10 makes illegal both the spreading of manure on frozen lands and the establishment of feedlots on lands which in either case have a slope of twelve degrees or more "when such practice would cause direct runoff of pollutants into a drainageway or watercourse."[83]

For several years, Walworth County has been planning an extensive revision of its zoning ordinance. Under this revision, the county plans to consolidate and strengthen the provisions regarding agricultural waste and feedlot management practices. Sections 2.6 and 2.8 of the proposed zoning ordinance of August 15, 1973 are adopted verbatim from Sections 2.9 and 2.10 of the Shoreland Zoning Ordinance.[84] With the exception of slight differences in the wording of the provisions, Section 8.5 of the revision is adopted from the Shoreland Zoning Ordinance section of the same number.[85] In the preliminary draft of the zoning ordinance, a significant addition has been made. Section 2.6 prohibits the spreading of manure on frozen land and the establishment of feedlots in circumstances which would lead to the discharge of pollutants into a watercourse. This provision would be enforced without regard to the slope of the land.[86]

It is true that the definition of feedlots in the proposed zoning ordinance covers only those animal feeding operations with large quantities of animals. Specifically, a commercial feedlot is defined as an "animal confinement facility used or capable of being used for feeding or holding 1,000 or more animal units for a period of 30 days or more."[87] In turn, an animal unit is defined as the equivalent of "1,000 pound fat steer; one dairy cow; four 55 pound swine; one sheep; 100 laying hens; 1,000 broilers; one horse; or 100 turkeys."[88] However, the limitations on spreading manure on frozen land apply to any farm which raises animals. The elimination of the slope requirement is significant because of the great potential that the spreading of manure on frozen land presents to an area's water. This ordinance has not yet been passed by the Board of County Supervisors. It is the hope of Walworth County environmentalists that a more restrictive definition of feedlot will be adopted so as to extend the prohibition of Section 2.6 to farms with smaller animal concentrations which may be significant pollution sources.

Conclusion

Many parts of the United States experience severe pollution problems due to uncontrolled runoff from feedlot and other agricultural sources. Congress recognized its responsibility and attempted, by enacting the 1972 Federal Water Pollution Control Act Amendments, to initiate federal action to clean up these sources of pollution. The EPA, which had been granted authority to administer the program, has attempted to abrogate the effectiveness of the Act. In order to bring larger numbers of feedlots under NPDES control, the EPA should reverse its decision to rely as heavily as it does on the numerical criteria for feedlot designations. If EPA does not do this, it should at least re-include all point sources of agricultural runoff under the effluent guidelines promulgated on February 14, 1974.[89] Re-inclusion of small feedlots in the effluent guidelines is important because the toxicity of wastes from small feedlots, though in smaller amounts, is as damaging as that of larger feedlots.

The EPA has scrupulously avoided extension of its authority to anything that could be even remotely considered a non-point source of agricultural pollution. EPA's lack of action has been most notable in its refusal to accept responsibility for control of manure spreading operations, even where the manure has originated from a feedlot required to obtain a permit. The EPA does grudgingly admit that it has the capability to regulate this source of agricultural pollution under the Refuse Act of 1899, but will not consider such regulation as part of its responsibilities under the FWPCA of 1972.[90] Since the manure itself is a part of the discharge to be controlled, one has the feeling that once again, the EPA has construed the reaches of its authority under the Act too narrowly.

The Department of Agriculture and other federal agencies doing research in the field of animal waste pollution should be encouraged to increase their efforts in this direction. More funds should be allocated and spent for existing research in the areas of recycling animal manure through the food cycle and conversion of animal wastes into assorted energy products. The Department of Agriculture should also increase funding for projects to encourage the use of organic rather than chemical fertilizers and to develop more economical technology for such use.

In Wisconsin, whose water resources are seriously threatened by runoff pollution from dairy and hog farms, the legislature has effectively stymied any meaningful abatement action. The shortsighted and self-interested view taken by the state legislators may severely damage an increasingly successful recreation industry, which depends heavily upon the availability of clean and attractive rivers, lakes, and water supplies. If the Department of Natural Resources is to deal effectively with this serious pollution problem, the state legislature will have to reconsider what can only be termed its unfortunate limitation on the DNR. The state should follow the example of its more progressive political subdivisions such as Walworth County.

The threat posed to water quality by agricultural runoff pollution cannot be dealt with in the manner employed to date. The problem can only be solved through the cooperation of federal, state, and local governments which, unfettered by self-interested pressure groups or concerns over administrative burdens, have the resolve and energy to obtain a high standard of water quality.

NOTES

[1] *See* p. 9-10 *infra* for further discussion of non-point sources; *See also* U.S. Environmental Protection Agency, *Methods and Practices for Controlling Water Pollution from Agricultural Nonpoint Sources* 57-58 (1973) [hereinafter cited as *Methods*].

[2] Letter from Robert W. Long to Henry S. Reuss, Nov. 9, 1973 in *Control of Pollution from Animal Feedlots: Hearings Before a Subcommittee of the Committee on Gov't Operations*, 93d Cong., 1st Sess. 829 (1973) [hereinafter cited as Hearings].

[3] *Id.* at 830.

[4] *Hearings* 71-2 (statement of Dr. Charles M. Loveless).

[5] *Hearings* 215 (statement of Louise Rome).

[6] Letter from Russell Train to Henry S. Reuss, Nov. 23, 1973 in *Hearings* 502.

[7] Letter from James D. Vieregg to Cliff Blackwell, Mar. 1, 1974.

[8] Letter from Henry S. Reuss and Guy Vander Jagt to Robert W. Fri, June 25, 1973 in *Hearings* 12.

[9] U.S. Environmental Protection Agency, Region X, *Cattle Feedlots and the Environment* back inside cover (1972).

[10] *Id.*

[11] *Methods* 53-4.

[12] *Id.* at 53-7.

[13] Letter from Robert W. Long to Henry S. Reuss, Nov. 9, 1973 in *Hearings* 831-34.

[14] Letter from Elburt F. Osborn to Henry S. Reuss, Aug. 22, 1973 in *Hearings* 124-25.

[15] Boston Evening Globe, Apr. 26, 1974, at 6, col. 4.

[16] Wis. Dep't of Bus. Dev't, *Water*.

[17] U.S. Dep't of Commerce, Bureau of the Census, *Statistical Abstract of the U.S.* 569 (93d ed. 1972).

[18] Rivers and Harbors Appropriation Act of Mar. 3, 1899, 30 Stat. 425 (1899).

[19] Refuse Act of 1899, 33 U.S.C. §407 (1899).

[20] *Id.*

[21] 3 C.F.R. at 309, Exec. Order No. 11,574.

[22] 33 C.F.R. §209.131(d).

[23] Letter from Russell E. Train to Henry S. Reuss, Nov. 23, 1973 in *Hearings* 502.

[24] Memorandum from Lauren R. Oldak to Assoc. Gen. Counsel, Water as attached to memorandum from Robert V. Zener to Anson M. Keller, Sept. 24, 1973 in *Hearings* 683-84.

[25] Fed. Water Pollution Control Act. Amdts., 33 U.S.C. §1151 (1972) amending Water Quality Improvement Act, 84 Stat. 91 (1970); Refuse Act, 33 U.S.C. §407 (1899).

[26] On February 19, 1974 a federal grand jury in Omaha, Nebraska returned the first indictment against a feedlot for an illegal discharge under Section 301(a) of the FWPCA. *U.S.A. v. American Beef Packers, Inc.*, U.S. Dist. Ct. Neb.

[27] 33 U.S.C. §1151, sec. 304(e) (1972).

[28] *Id.*, sec. 502(14).

[29] *Id.*, sec. 304(e).

[30] 40 C.F.R. 124 (1972); 40 C.F.R. 125 (1973).

[31] 38 F.R. 128 (1973).

[32] 33 U.S.C. §1151, sec. 510 (1972).

[33] *Id.*, sec. 402.

[34] 38 F.R. 128 (1973).

[35] Memorandum from Robert V. Zener to Asst. Adm'r for Enforcement and Gen. Counsel, Feb. 26, 1973 in *Hearings* 667.

[36] *Id.* at 669.

[37] Brief for Plaintiff at 9, *Natural Resources Defense Council v. John R. Quarles, Jr. and Environmental Protection Agency*, U.S. Dist. Ct. D.C., Civil Action No. 1629-73; EPA brief not available.

[38] Letter from Henry S. Reuss and Guy Vander Jagt to Robert W. Fri, June 25, 1973 in *Hearings* 15.

[39] *Id.* at 17-18.

[40] *Id.* at 18.

[41] *Id.* at 22-23.

[42] Letter from Earl L. Butz to William D. Ruckelshaus, Jan. 10, 1973 in *Hearings* 873.

[43] Letter from J.L. Higgins to Henry S. Reuss, Oct. 16, 1973 in *Hearings* 1143.

[44] Letter from Henry S. Reuss and Guy Vander Jagt to Robert W. Fri, June 25, 1973 in *Hearings* 12.

[45] Economic Research Serv., *Econ. Impact of Controlling Surface Water Pollution from Fed-Beef Operations* 4 (1973).

[46] Staff of Conservation & Natural Resources Subcomm. of House Comm. on Gov't Operations, 93d Cong., 1st Sess., *Memorandum on Control of Pollution from Animal Feedlots* 6 (1973) [hereinafter cited as *Memorandum*].

[47] Econ. Research Serv., *Econ. Impact of Controlling Surface Runoff from U.S. Dairy Farms* 4 (1973).

[48] *Agricultural Census*, Table IV-5 (1969).

[49] Econ. Research Serv., *Econ. Impact of Controlling Surface Water Pollution from U.S. Hog Production* 5 (1973).

[50] *Agricultural Census*, Table III-6 (1969).

[51] Letter from Joseph E. Ober to House of Rep. Conservation & Natural Resources Subcomm., Nov. 9, 1973 in *Hearings* 1083.

[52] Letter from William T. Paynter to Henry S. Reuss, Oct. 3, 1973 in *Hearings* 1073.

[53] *Id.*

[54] The regulations do consider the problem of adjacent feedlots, but only in the context of those held in joint ownership.

[55] U.S. Environmental Protection Agency, Region X, *Cattle Feedlots and the Environment* (1972).

[56] The implementation of the monitoring program is allied with the permit program because of the practical problems of identification, although such practice is technically a violation of paragraph 3 of the July 5th regulations.

[57] 38 F.R. 128 Para. 3 (1973).

[58] 32 F.R. 173 (1973).

[59] 40 C.F.R. 412 (1972).

[60] 33 U.S.C. §1151, sec. 301(e): "Effluent limitations established pursuant to this section or section 302 of this Act shall be applied to all point sources of discharge of pollutants in accordance with the provisions of this Act."; 33 U.S.C. §1151, sec. 304(b).(1972).

[61] *Memorandum* 10-11.

[62] *Id.* at 9.

[63] *Id.* at 19.

[64] Letter from Elburt F. Osborn to Henry S. Reuss, Aug. 22, 1973, in *Hearings* 124-25.

[65] Wis. Stat. 144.025(c) (1965); Wis. Stat. 144.025(d)1,2 (1965).

[66] Wis. Stat. NR 102 preamble (1973).

[67] Letter from Philip R. O'Leary to C.E. Blackwell III, Oct. 30, 1973; Cold Comfort Farms and Wisconsin Land & Cattle closed voluntarily in lieu of compliance with the DNR orders.

[68] Proposed Dep't Natural Resources regulations, NR 130 (Dec. 1971).

[69] Proposed Dep't Natural Resources regulations, NR 130 (Dec. 8, 1972).

[70] Wis. Stat. Ann. ch. 147.01(2) as enacted under Wis. Stat. Ann. ch. 74 (1973).

[71] Wis. Stat. Ann. ch. 147 as enacted under Wis. Stat Ann. ch. 74 (1973).

[72] Wis. Stat. Ann. NR 102-104 (1973).

[73] Telephone interview with David Ulrich, EPA Region X Counsel, Feb. 19, 1973.

[74] Wis. Stat. Ann. ch. 147.01(2) as enacted under Wis. Stat. Ann. ch. 74 (1973).

[75] 33 U.S.C. §1151, sec. 510 (1972).

[76] Wis. State Reporting Serv., *1973 Wis. Agricultural Statistics* 4 (1973).

[77] Interview with Philip R. O'Leary, Industrial Wastewater Section, Bureau of Water Supply and Pollution Control, State of Wis. Dep't Natural Resources, Dec. 28, 1973.

[78] *Agricultural Census*, Table IV-5 (1969).

[79] *See* p. 11 for further discussion of the term "significant contributor of pollution."

[80] Walworth County appears to be unique in this respect, but its distinctiveness is difficult to explain. The difference may be accounted for by the level of education of the inhabitants of Walworth County, which is slightly higher than the state average, and also by the county's slightly higher per capita income. Another factor may be that Walworth County farmers realize that their general welfare depends on peaceful coexistence with a highly productive recreation industry which is proportionally more important there than in many areas of the state.

[81] Walworth County, Wis., Sanitary Ordinance, Sept. 1966, Sec. 2.6.

[82] Walworth County, Wis., Shoreland Zoning Ordinance, Jan. 12, 1971, Sec. 2.9, 8.5 [hereinafter cited as Shoreland Ord.].

[83] *Id.*, sec. 2.10.

[84] Walworth County, Wis., Preliminary Draft, Zoning

Ordinance, Aug. 15, 1973, Sec. 2.6, 2.8 [hereinafter cited as Draft Zoning Ord.] ; Shoreland Ord., sec. 2.9, 2.10.

[85] Draft Zoning Ord., sec. 8.5; Shoreland Ord., sec. 8.5.

[86] Draft Zoning Ord., sec. 2.6.

[87] Although this definition of feedlot is somewhat regressive in terms of environmental improvement efforts, it should be noted that this definition is subject to change. In any case, the definitional problem is overshadowed by the importance of the prohibition on spreading manure on frozen ground.

[88] Draft Zoning Ord., sec. 13.0.

[89] 40 C.F.R. 412.

[90] Memorandum from Lauren R. Oldak to Assoc. Gen. Counsel, Water as attached to memorandum from Robert V. Zener to Anson M. Keller, Sept. 24, 1973 in Hearings 683-84.

STATEMENT OF

DAVID G. HAWKINS

NATURAL RESOURCES DEFENSE COUNCIL

before the

SELECT COMMITTEE ON NUTRITION AND HUMAN NEEDS

of the

UNITED STATES SENATE

September 21, 1972

Natural Resources Defense Council
1710 N Street, N.W.
Washington, D.C. 20036
(202) 783-5710

I WOULD LIKE TO ADDRESS MYSELF TO A CATEGORY OF COMPOUNDS WHICH THE FOOD, DRUG AND COSMETICS ACT PROHIBITS IN FOOD BUT WHICH BECAUSE OF LAX REGULATION BY THE FDA MAY BE CONTAMINATING SIGNIFICANT PORTIONS OF OUR FOOD SUPPLY. I AM SPEAKING OF DRUGS ADMINISTERED OR FED TO OUR BEEF CATTLE, LAMBS, POULTRY AND OTHER FOOD-PRODUCING ANIMALS. RECENT CONTROVERSY HAS FOCUSED ON THE CARCINOGENIC GROWTH-PROMOTING HORMONE DIETHYLSTILBESTROL (OR DES).

AS YOU MAY RECALL THE FDA THIS SUMMER BELATEDLY TOOK THE FIRST STEP OF BANNING DES IN ANIMAL FEEDS AS OF JANUARY, 1973. THE OSTENSIBLE REASON FOR THIS BAN WAS THAT A NEW TEST METHOD HAD SHOWN THAT EVEN WHEN USED AS DIRECTED DES DOES NOT DISAPPEAR FROM THE ANIMAL'S SYSTEM AND IS PRESENT IN THE BEEF AND LAMB REACHING OUR DINNER TABLES. DES HAS BEEN FED TO BEEF CATTLE SINCE 1954. THUS, IN TAKING ITS ACTION THIS SUMMER FDA WAS IN EFFECT ADMITTING TO THE AMERICAN PUBLIC THAT THIS CARCINOGENIC DRUG HAS BEEN CONTAMINATING OUR MEAT SUPPLY FOR THE PAST 18 YEARS.

FDA's FAILURE TO "DISCOVER" THIS RESIDUE PROBLEM FOR THESE 18 YEARS IS NOT A MATTER OF MERE CARELESSNESS BUT A PRODUCT OF FDA'S SYSTEMATIC VIOLATION OF THE LAW REGULATING THESE ANIMAL DRUGS. SINCE THE KEFAUVER-HARRIS

DRUG AMENDMENTS OF 1962, THE LAW HAS REQUIRED THAT FDA MAY NOT APPROVE A CARCINOGEN FOR USE AS AN ANIMAL DRUG UNLESS (A) THE AGENCY IS REASONABLY CERTAIN THAT THE DRUG WILL BE USED IN A WAY THAT WILL NOT PRODUCE RESIDUES IN FOOD AND (B) THE AGENCY HAS A "PRACTICABLE" TEST METHOD (THAT IS, ONE WHICH CAN BE USED IN THE FIELD) TO DETERMINE IF THE DRUG IS BEING USED IMPROPERLY. IT TOOK FDA 18 YEARS TO DOCUMENT THE EXISTENCE OF DES RESIDUES BECAUSE THE AGENCY HAD NEVER MADE A MEANINGFUL EFFORT TO DETERMINE THAT THE DRUG WOULD BE USED CORRECTLY AND BECAUSE THE AGENCY APPROVED THE DRUG WITHOUT HAVING A PRACTICABLE TEST METHOD WHICH FDA OR USDA COULD USE TO DETERMINE WHETHER RESIDUES WERE OCCURRING.

THE PURPOSE OF MY STATEMENT TODAY IS TO CALL THIS COMMITTEE'S ATTENTION TO THE FACT THAT THE FDA IS CONTINUING TO VIOLATE THE LAW IN ITS REGULATION OF MANY COMPOUNDS PRESENTING THE SAME DANGERS TO THE PUBLIC HEALTH AS DES. DES IS ONLY ONE OF 15 DIFFERENT HORMONES (MORE ACCURATELY, HORMONALLY-ACTIVE COMPOUNDS) WHICH FDA PERMITS TO BE ADMINISTERED TO ANIMALS WE EAT. OF THE 14 HORMONAL DRUGS OTHER THAN DES, FDA CLASSIFIES 10 AS PROVEN OR POTENTIAL CARCINOGENS. THESE DRUGS ARE IDENTIFIED IN AN FDA MEMORANDUM ATTACHED TO MY STATEMENT. AS PAGE 2 OF THIS MEMORANDUM INDICATES THE COMPOUNDS LISTED UNDER THE HEADINGS "ESTROGENIC ACTIVITY," "ANDROGENIC ACTIVITY," AND "PROGESTATIONAL ACTIVITY" ARE

EITHER KNOWN OR SUSPECTED CARCINOGENS.

THUS, WE HAVE TEN CANCER PROMOTING DRUGS WHICH THE FARMERS OF AMERICA INTENTIONALLY ADD TO OUR FOOD SUPPLY. THE NATURAL AND PRUDENT QUESTION TO ASK IS "DOES THE USE OF THESE COMPOUNDS RESULT IN RESIDUES AS HAS OCCURRED WITH DES?" YET THE FDA AND THE USDA CANNOT ANSWER THIS QUESTION. THE REASON IS THAT THEY DO NOT TEST FOR THESE DRUGS IN ANIMAL CARCASSES - AT ALL! AND THE BASIC REASON THESE AGENCIES DO NOT TEST FOR THESE DRUGS IS THAT THEY DO NOT HAVE TEST METHODS WHICH THEY CAN EMPLOY EFFECTIVELY IN A REGULATORY PROGRAM TO DETERMINE WHETHER RESIDUES ARE OCCURING IN USE.

THE LAW REQUIRES THAT THE FDA HAVE SUCH TEST METHODS AVAILABLE BEFORE APPROVING SUCH DRUGS. YET FDA HAS VIOLATED THIS REQUIREMENT. FDA DOES POSSESS TEST METHODS CAPABLE OF DETECTING THESE DRUGS, BUT FOR THE MOST PART THE METHODS ARE UNUSABLE AS ENFORCEMENT TOOLS. THE ONLY METHOD AVAILABLE FOR SIX OF THE TEN DRUGS - DIENESTROL DIACETATE, ESTRADIOL BENZOATE, ESTRADIOL MONOPALMITATE, TESTOSTERONE, TESTOSTERONE PROPRIONATE, AND PROGESTERONE - IS A COSTLY AND TIME-CONSUMING BIOASSAY METHOD, REQUIRING THE ADMINISTRATION OF POTENTIALLY CONTAMINATED TISSUE TO A NUMBER OF LABORATORY ANIMALS FOR A NUMBER OF DAYS. CHEMICAL ANALYTICAL METHODS ARE AVAILABLE FOR THE FOUR OTHER DRUGS BUT FOR A VARIETY OF

REASONS THEY ARE NOT USED. IN 1970, USDA SURVEYED CATTLE FOR RESIDUES OF MELENGESTROL ACETATE. RESIDUES WERE DETECTED AND SOON AFTER USDA STOPPED THE TESTING PROGRAM FOR THE STATED PURPOSE OF IMPROVING THE TEST METHOD. THE PROGRAM HAS NOT BEEN RESUMED TO DATE. OTHER THAN THIS AMBIGUOUS EFFORT OUR BEEF, LAMB AND POULTRY HAS NEVER BEEN TESTED FOR TRACES OF THESE DRUGS. YET THEIR USE CONTINUES ON A DAILY BASIS.

IN AN ATTACHED CHART I HAVE IDENTIFIED THE FOOD ADDITIVE REGULATIONS WHICH PERMITS THE USE OF THESE DRUGS AND THE ANIMALS WHICH RECEIVE THEM. PERHAPS THE MOST TROUBLING OF THESE DRUGS IS DIENESTROL DIACETATE. LIKE DES THIS DRUG IS MIXED WITH ANIMAL FEEDS - IN THIS CASE FOR CHICKENS AND TURKEYS, NOT CATTLE. THE DES EXPERIENCE HAS DEMONSTRATED THAT THE USE OF THESE DRUGS IN FEEDS IS VERY DIFFICULT TO CONTROL AND THAT RESIDUES ARE LIKELY TO RESULT. THE DANGER OF RESIDUES IS CONFIRMED BY THE EXPERIENCE OF THE POULTRY INDUSTRY WITH RESIDUES OF ARSENICAL MIXED WITH POULTRY FEED. SUCH RESIDUES ARE ROUTINELY DETECTED WHEN TESTS FOR THE COMPOUND ARE RUN.

THIS HIGH PROBABILITY THAT RESIDUES ARE OCCURING IS ESPECIALLY SIGNIFICANT SINCE DIENESTROL DIACETATE IS A SISTER COMPOUND OF DES IN ITS CARCINOGENIC POTENTIAL. LIKE DES IT HAS BEEN IMPLICATED IN THE DEVELOPMENT OF

VAGINAL CANCER IN THE DAUGHTERS OF WOMEN TREATED WITH THE DRUG DURING PREGNANCY. LIKE DES DIENESTROL DIACETATE HAS BEEN THE SUBJECT OF AN OFFICIAL FDA WARNING TO PHYSICIANS CONTRA-INDICATING ITS USE FOR PREGNANT WOMEN. YET THIS SAME FDA CONTINUES TO PERMIT THE UNCHECKED USE OF THIS SAME DRUG IN OUR FOOD SUPPLY WITH NO WAY OF TELLING WHETHER IT IS REACHING OUR DINNER TABLES.

ACTION MUST BE TAKEN NOW TO HALT THE USE OF THESE DRUGS UNTIL THE MANUFACTURERS OF THE COMPOUNDS SATISFY THEIR RESPONSIBILITY UNDER THE LAW THAT THEY SUPPLY FDA WITH A TEST METHOD WHICH THE AGENCY CAN USE AS A REGULATORY ENFORCEMENT TOOL. ACCORDINGLY, I HAVE SENT A COPY OF THIS TESTIMONY TO COMMISSIONER EDWARDS WITH THE REQUEST THAT HE SUSPEND THE APPROVALS OF THESE DRUGS UNTIL SUCH TESTS ARE DEVELOPED.

THANK YOU. I'LL ATTEMPT TO ANSWER ANY QUESTIONS YOU MAY HAVE.

KNOWN AND SUSPECTED CARCINOGENIC COMPOUNDS USED IN FOOD-PRODUCING ANIMALS

COMPOUND	FOOD ADDITIVE REG. 21 C.F.R.	ANIMAL TREATED	METHOD OF ADMINISTRATION	TEST METHOD
Estradiol benzoate	121.245	Lambs, cattle	Implant	Bioassay
Estradiol Monopalmitate	121.257	Chickens	injected at base of skull.	Bioassay
Dienestrol diacetate	121.266	Chickens, turkeys	In feed	Bioassay
Zearalanol (zeranol)	135b.12	Lambs, cattle	Implant	Chemical
Testosterone proprionate	121.244	Cattle	Implant	Bioassay
Testosterone	121.299	Cattle	Implant	Bioassay
Chlormadinone acetate	121.238	Cattle	In feed	Chemical
Progesterone	121.243	Cattle, lambs	Implant	Bioassay
Medroxyprogesterone acetate	121.276	Cattle, ewes	In feed	Chemical
Melengestrol acetate	121.308	Cattle	In feed	Chemical
3,5-dinitrobenzamide	121.263	Chickens	In feed	Chemical
Nihydrazone	121.237	Chickens	In feed	*
Furazolidone	121.255	Pigs	In feed	

*Withdrawal of approval proposed 36 Fed. Reg. 5918 (March 31, 1971). No action taken to date.

March 4, 1971

Division of Drug Biology (BD 410)

Inquiry from Stern Community Law Firm, Washington, D.C., dated February 18, 1971, concerning food additives listed under Section 135g.

K.F. Johnson, D.V.M.
Director
Division of Veterinary Medical Review
Bureau of Veterinary Medicine (VM 200)
THROUGH: Dr. Herbert Blumenthal
Deputy Director
Division of Toxicology
Bureau of Foods (BF-148)

This is in reply to your memorandum of February 22, 1971, concerning the request for information on food additives by the Stern Community Law Firm.

With the exception of one compound listed as "135g.45 3,5 - Dinitrobenzamide", all of the compounds are either naturally occurring hormones or compounds with hormonal activity. 3,5-Dinitrobenzamide is used as a coccidiostat in poultry. It has no hormonal activities. Its status as a carcinogen is discussed below. There are two additional hormonally-active compounds which have approved food additive orders which do not occur on the list submitted by the firm. These are:

135g.3	Hydrocortisone (as sodium succinate or acetate)
135g.67	Methylprednisolone

The compounds represent four types of hormonal activity, and therefore may be grouped as follows:

Estrogenic Activity

135g.26	Diethylstilbestrol (DES)
135g.30	Estradiol benzoate
135g.38	Estradiol monopalmitate
135g.46	Dienestrol diacetate
135g.64	Zearalanol (Zeranol)

Androgenic Activity

135g.29	Testosterone propionate
135g.53	Testosterone

Progestational Activity

135g.23	Chlormadinone acetate
135g.28	Progesterone
135g.49	Medroxyprogesterone acetate
135g.56	Melengestrol acetate

Glucocorticoid Activity

135g.3	Hydrocortisone (as sodium succinate or acetate)
135g.37	Prednisolone
135g.40	Prednisone (acetate?)
135g.67	Methylprednisolone

The naturally occurring steroids are estradiol, testosterone, progesterone, and hydrocortisone. All estrogens are considered to be carcinogens, since all estrogens that have been adequately tested have been shown to be carcinogens in animals. The case of diethylstilbestrol and estrone are well documented. Estradiol and estrone are normally converted from one to the other in the animal body. The evidence that progesterone and testosterone are carcinogens is somewhat tenuous, but since both of these compounds are metabolized to estrogens in the body, we have maintained that they are potential carcinogens and have treated them as carcinogens in considering their use where they might possibly become a food additive.

Those compounds which have glucocorticoid activity are used in diary cows for treatment of bovine mastitis and for treatment of Ketosis. These compounds have never been shown to be carcinogens in any species. No residues are permitted in milk following their use.

At your suggestion, I conferred with Dr. Herbert Blumenthal of the Division of Toxicology, Bureau of Foods, for a determination if there are other food additives with carcinogenic qualities which were not included on the list submitted by the Stern Community Law Firm. He provided me with the following information on 3,5-dinitrobenzamide and other compounds:

Data available for 3,5-dinitrobenzamide suggest that it is a potential carcinogen. Data are also available to show that using a 5-day withdrawal period there will be no residues of this compound in edible tissues. For this reason, 3,5-dinitrobenzamide has been permitted only in combination with a drug requiring a 5-day withdrawal period. The regulatory method available is sensitive to 10 ppb and is meant primarily as a tool to prevent gross drug abuse or misuse of this drug.

The 5-nitrofurans have recently been implicated as a class of compounds having carcinogenic properties. Those used in food producing animals (135g.20, 21, 36) are currently under review, particularly as to analytical methodology and withdrawal period.

To our knowledge, this completes the list of compounds of the categories requested, for which food additive regulations have been published.

Mr. Robert N. Anderson of the General Counsel's Office called me concerning our reply to the Stern Community Law Firm's request. You may wish to check with Mr. Anderson before making a reply to them.

Ernest J. Umberger, Ph.D.
Director
Division of Drug Biology
Office of Pharmaceutical Research and Testing
Bureau of Drugs

cc: BD-400
BF-148
VM-8

(BD-410)E.J.Umberger:cea 03/04/71

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October 28, 1975

Proposal for Regulation Discharges from Concentrated Animal Feeding Operations (CAFO's)

I. Proposal

A. Concentrated animal feeding operations (CAFO's) would be defined as feedlots with 100 animal units or greater. A feedlot would be defined as a place where livestock are confined and fed and crop production is not sustained in the area of confinement.

B. The following CAFO's would be required to apply for individual NPDES permits:

1. Those with greater than 1000 animal units;
2. Those which discharge process waste water into waters of the United States through a pipe, ditch, natural tributary of such waters, or other conveyance;
3. Those which are proximate to waters of the United States, according to the following table:

Type of CAFO	Distance to watercourse from CAFO is less than (feet per 100 animals)
Beef	200
Dairy	100
Swine	50

4. Those which are determined by EPA or the states to be significant contributors of pollutants.

C. No CAFO's would be required to apply for a permit if it were constructed and operated to achieve no discharge of pollutants.

D. CAFO's not required to apply for individual permits would be regulated by general and/or regional permits. Such permits would inter alia require compliance with a CAFO effluent guideline. The CAFO effluent guideline would provide for a BPT of no discharge (except in the case of a 24 hour-10 year rainfall event) whenever the economic impact permitted it. Whenever BPT is less than no discharge for any subcategory, the effluent guideline could either establish less restrictive effluent limitations or require application of best management practices (BMP's).

II. Discussion

The recommended approach is believed to be consistent with the provisions of the Federal Water Pollution Control Act. It would also address in a meaningful way the existing feedlot pollution problem.

The attached Table presents relevant U.S. Census data. The Table shows, for example, that the CAFO definition recommended here would leave outside the NPDES program 85% of U.S. beef cattle operations, 95% of U.S. dairy operations and 80% of U.S. swine operations, yet at the same time the program would cover over 80% of the beef cattle and swine in the U.S. and about 30% of the dairy cows.[*]

The Table shows that there would be roughly 160,000 CAFO's under the proposed definition. Only a fraction of this number, however, would be subject to individual NPDES permit procedures, for two reasons. First, a large percentage of covered operations are already achieving essentially no discharge, and, second, many of those which are discharging pollutants into waters of the U.S. would fail to qualify for individual permitting under the proposal recommended above.

A better idea of the size of the individual permit load can be obtained by considering certain data developed by the Economic Research Service of the Department of Agriculture. Regarding beef cattle operations, the ERS reports that only about 10,000 operations with over 100 head in the 18 major beef-feeding states have water pollution control problems. The ERS further estimates that about 40% of dairy herds have water pollution control problems, and about a third of the covered swine operations. These data suggest that less than a third, and probably an even smaller percentage, of the feedlot operations of over 100 animal units would require individual permitting under the proposed scheme.

A further point which should be stressed is that inclusion in the NPDES program, or even regulation by individual permit, does not in itself determine what pollution control measures will be required. Permits, whether general or individual, are required to implement the "best practicable control technology" (BPT). For CAFO's below 1000 animal units EPA has not yet determined BPT, and when it does make that determination it will have to consider economic impact. Thus, it is erroneous to claim, as some have, that expansion of the NPDES program to include all CAFO's will cause severe economic dislocations.

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[*] Chicken, turkey, duck and sheep operations are not discussed here in light of the conclusion of EPA's Economic Analysis of the Feedlot Industry that "these segments . . . either do not have effluent discharge problems or, for the most part, currently meet proposed effluent guidelines with inplace control facilities or management practices."

The Table presents data showing some of the consequences of three different animal unit cutoffs. At the 200 animal unit cutoff level, the number of feedlots covered drops sharply from 160,000 to 50,000, and the proportion of covered feedlots for which individual permits would be required is smaller here than at 100 animal units because of the tendency for an increasing proportion of larger lots to be at no discharge.

The 300 animal unit cutoff is the level suggested by the U.S. Department of Agriculture. It would be unfortunate and disappointing if EPA could not broaden and improve upon the recommendation of the Agriculture Department, given the divergent interests of the two agencies.

The 1000 animal unit cutoff, of course, is the one employed in the current regulations. The arbitrary and unreasonable nature of this cutoff is described in the Report of the House Government Operations Committee, "Control of Pollution from Animal Feedlots and

Reuse of Animal Wastes" (April 25, 1974). If EPA were to continue with this cutoff, whether by definition or otherwise, such a step would constitute a cynical flouting of the Act and Judge Flannery's order implementing the Act, a gross disregard of the needs of the environment and of the wishes of the environmental community, and a serious blow to the morale of the many persons within EPA who are deeply committed to cleaning up the environment.

The magnitude of the environmental interest at stake can only be appreciated when one realizes that the wastes produced in U.S. dairy, beef and swine feedlots between 100 and 1000 animal units each year is *two and a half times that produced by the entire human population of the U.S.* The animal wastes produced in beef feedlots of between 300 and 1000 head *alone* is the equivalent of the bodily wastes of 60,000,000 people. And this waste is not merely an origin of large quantities of BOD and nutrients in our waters; it is also a potent source of pathogens, antibiotics, nitrates and carcinogenic feed additives such as diethylstilbestrol (DES).

J.G. Speth

Table

	No. of Feedlots	% of Total U.S. Feedlots	% of Total Animals Covered
	100 Animal Units or Greater		
Beef	36,000	13%	82%
Dairy	23,000	5	27
Swine	102,000	19	82
Total	161,000		
	200 Animal Units or Greater		
Beef	17,000	8%	72%
Dairy	5,000	1	12
Swine	28,000	5	40
Total	50,000		
	300 Animal Units or Greater		
Beef	10,000	4%	65%
Dairy	2,000	1	8
Swine	13,000	2	23
Total	25,000		
	1000 Animal Units or Greater		
Beef	2,000	1%	51%
Dairy	300	0.1	3
Swine	800	0.2	5
Total	3,000		

Source: U.S. Bureau of the Census

Senator NELSON. Mr. Legro, we are pleased to have you back again today. When that buzzer goes, I have to answer the rollcall, and then I have a specific appointment with a scientist who is from out of town and leaving for Geneva, Switzerland, on NIH problems, so I will have to go to my office.

If you don't mind—it is an exceptional circumstance under which I would do it—would you be willing to present the balance of your testimony with Mr. Nedelman presiding?

STATEMENT OF HON. STANLEY W. LEGRO, ASSISTANT ADMINISTRATOR FOR ENFORCEMENT, ENVIRONMENTAL PROTECTION AGENCY—Continued

Mr. LEGRO. I would be happy to, Mr. Chairman. However, I believe I can make my testimony brief enough. I do have the answers to the questions that were asked, and we could give those to Mr. Nedelman.

First of all, I would like to say we do appreciate the opportunity to be here on behalf of the EPA. I believe these hearings have been very helpful and the witnesses you have selected have brought forth a number of very well-thought-out points of view. I would like to clarify one thing, Mr. Chairman, while you are here, with regard to your statement. In your statement you mentioned the permit approaches presented by the EPA.

I am looking at the third line from the bottom of the first page with regard to the legislative history and Judge Flannery's opinion. If I could, just remind the chairman that we suggested at least four different alternatives in our statement. We also suggested that we probably would not go forward with all of those alternatives and one of the reasons for suggesting them was to bring forth this kind of discussion. It is true that several of the approaches that you criticize are among those alternatives in our statement.

I think it is helpful to have the chairman's viewpoint on this. From my testimony on page 5, down at the bottom of the page, a fourth alternative is proposed in the feedlot operation category, whereby the point source is defined, following the legislative history of the act. This results in a numerical cutoff in the feedlots.

I just want to make it clear that the position you have taken in your statement is quite consistent with one of the alternatives that we proposed for discussion.

Senator NELSON. If I can translate that, I am wrong in what I said here or I overstated the case?

Mr. LEGRO. Yes. In other words, I think several of the alternatives that we have proposed are subject to the criticism you have made, but the very idea of proposing four alternatives was to bring out this discussion.

Senator NELSON. On the questions we asked yesterday, are you presenting the responses extemporaneously or do you have the prepared responses?

Mr. LEGRO. I have the information and we can give it to Mr. Nedelman afterward.

I would like to say, if I could, one or two things about the statement just made by Mr. Speth, which we have not had time to examine in detail since it was handed to us just as he walked up here. I would have to commend him or doing a fairly effective job of avoiding giving any direct answers to some of the questions which you posed.

I think it is fair to say that the statement is not even internally consistent with its own terms. For instance, in his statement he said much of the pollution comes from these agricultural feedlot-type point sources, and should therefore be regulated in the permit program.

He then said he thinks that we should define "concentrated animal feeding operation" broadly and get it under the permit program, and then deal with it by effluent limitations.

Now I can only assume that his position is that he really wants to be issuing these individual permits to hundreds of thousands or millions of people.

Senator NELSON. I am going to have to interrupt and run or I will miss the rollcall.

Mr. LEGRO. It seems it is inconsistent in response to your questions. I don't think when you examine this and put it under scrutiny that it stands up. I do appreciate the opportunity of having been here.

Senator NELSON. I will be glad to have you finish the testimony for the record so that you get printed, but if you wish to have some additional time tomorrow or something I would be glad to try to schedule it.

Mr. LEGRO. I think we have had an opportunity to cover most of the points. We can supplement the record to make it complete, Mr. Chairman. Thank you very much.

Senator NELSON. Thank you.

Mr. NEDELMAN. We just had one more point to explore.

The EPA is under a court order to promulgate draft regulations for certain classes of point sources concentrated animal feeding operations, storm sewers, inflow irrigation by the 10th of November: is that correct?

Mr. LEGRO. By the 10th of November for the concentrated animal feeding operations and storm sewers.

Mr. NEDELMAN. Is the EPA considering adopting an approach incorporated by the Corps of Engineers in promulgating a series of regulations, one of which would, as your statement on page 5 of your testimony indicates, include a definitional attempt at a concentrated animal feeding operation? Would another series of regulations basically outline the discussion we had on October 17 where those four other proposals were described briefly? Is that correct?

Mr. LEGRO. These are all alternatives that are being considered by the Agency. We are not in a position to say at this time whether or not the agency will publish more than one alternative or any of these alternatives.

Obviously, we will prepare the information that has been gathered at this hearing as well as information gathered from executive and interagency reviews. I expect the regulations as published by the 10th of November will reflect the best information we can put together. Whether or not all the alternative regulations will be published we are not in a position to state at this time.

Mr. NEDELMAN. I believe it is Senator Nelson's view that this might be a helpful approach to consider, and certainly the evidence of the testimony presented over the last 2 days would indicate that a definitional approach to get at the problem of distinguishing between what is a concentrated animal feeding operation and what is not would be worthwhile to pursue.

I know we have been dealing with this for 2 years and that has been the major problem.

Mr. **Legro.** I know it certainly seems that thought is shared by a number of people. However, I notice that Mr. Speth in his testimony very carefully avoided answering any of the numerous questions that were directed to him with a view toward finding out whether or not if that approach were taken he would find it satisfactory.

I think he did say that his organization, which is a part of the lawsuit would not be agreeable to a definitional approach which would exclude large numbers of these animal feeding operations as not being concentrated or as not being point sources.

In that regard, I think it should be made clear that although the Environmental Protection Agency has the discretion to define what is a concentrated animal feeding operation. The way the statute was written it says point source means any discernible defined conveyance, and then it goes on to include concentrated animal feeding operations.

So there is a question as to the breadth of the discretion of the EPA with regard to defining what is a concentrated animal feeding operation; and second, even if that is done, whether or not that will solve the problems to which the chairman is addressing himself with regard to very large numbers of small dairymen and cattlemen.

Mr. **Nedelman.** In the 3 weeks that the Agency has to comply with the June 10 court order I am sure your people will be taking a look at the various formulas for defining "concentrated animal feeding operation." In addition, I am sure you have files and files of public comments dating back over 2 years.

Mr. **Legro.** I must say I was extremely disappointed that Mr. Speth in his testimony did not offer any constructive suggestions with regard to the type of parameters that we might use. I would have hoped that something like that would have been forthcoming this morning.

Mr. **Nedelman.** I think that's unfortunate. But I know the Department of Agriculture in their testimony submitted a series of criteria, and I know there are other people, the university people from Wisconsin and Minnesota who set forth criteria.

I believe the committee would very much like to see, if you go to an option approach, at least one definitional methodology put forward, and if not, somewhat of a detailed explanation why the Agency, in its judgment, could not arrive at a definition.

Mr. **Legro.** As long as we are here, we might just go ahead and answer the questions you had yesterday.

With regard to State permit programs, there are currently 26 States which have a program delineated.

It is likely there will be a 27th State by next week.

With regard to the number of section 208 planning agencies, 149 have been designated and approved by the Agency to date.

The future number would depend upon funding availability. We believe that perhaps 100 to 150 remain to be approved over the next 2 years depending upon funding availability.

In fiscal year 1974 there were approximately $13.5 million worth of grants to section 208 planning agencies.

In fiscal year 1975 there were approximately $150 million in section 208 planning agency grants.

We would expect that the 149 section 208 planning agency designations will have completed plans by the last quarter of the fiscal year 1977.

With regard to the questions on demonstration grants, we have spent approximately $2 million in grants on storm sewer demonstrations. Approximately $26 million in grants has been spent for combined sewers.

While there is no prohibition under the law from using title II funds for separate storm sewer construction funding, the Agency has made the determination that this is a lower priority than municipal wastewater treatment facilities and accordingly does not allocate the title II funds for separate storm sewer construction.

Mr. NEDELMAN. The Agency will provide the committee with the general counsel's memorandum relating to the legality of drafting effluent guidelines in terms of best wastewater management practices when that is available; is that correct?

Mr. LEGRO. In connection with the publication of our regulations we would be prepared to provide a memorandum opinion dealing with the subject of best management practices as a basis for either permit conditions or effluent guidelines.

Mr. NEDELMAN. Committee staff informs me that the record is normally kept open for 2 weeks, and since that is the normal procedure, we would welcome the submission of any statements by any interested groups or additional statements by those people who have testified on any factual information or comments they care to make on this issue.

Mr. LEGRO. I would hope that Mr. Speth would avail himself of the opportunity just offered to put forth some constructive suggestions as to a means by which they believe the agency could deal with this issue.

I think it would be very helpful if they were in fact willing to go on the record with some suggested positive approaches rather than just the criticism of approaches suggested by the agency and others here.

Mr. NEDELMAN. These hearings were held under the auspices of the Senate Select Committee on Small Business Committee's investigation: "Will the Family Farm Survive in America?"

These hearings are in recess, subject to the call of the chairman.

Thank you very much.

[Whereupon, at 1:20 p.m., the Joint Committees were adjourned, to reconvene at the call of the Chair.]

APPENDIX

Statement of Hon. Robert Dole, a U.S. Senator From the State of Kansas

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WATER POLLUTION CONTROL AND LIVESTOCK FEEDLOT OPERATIONS

MR. DOLE: MR. CHAIRMAN, I'M PLEASED TO HAVE THE OPPORTUNITY ONCE AGAIN TO EXPRESS THE CONCERNS AND INTERESTS OF SMALL LIVESTOCK FEEDLOT OPERATORS REGARDING FEDERAL REGULATIONS WHICH RESULT FROM THE 1972 FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS. I ALSO WANT TO PUT ON RECORD ONCE MORE MY OBJECTIONS TO THE POTENTIAL SITUATION THAT WOULD REQUIRE SUCH FEEDLOT OPERATORS TO APPLY FOR A FEDERAL PERMIT TO CONDUCT NORMAL FEEDLOT ACTIVITIES, OR TO MEET IMPRACTICAL STANDARDS FOR CONTROLLING FEEDLOT OVERFLOWS DURING CHRONIC WET PERIODS. THE OBJECTIONABLE ASPECTS OF THESE REQUIREMENTS WERE COVERED IN SOME DETAIL IN MY STATEMENTS ON THE SENATE FLOOR DURING 1972.

RECENT CIRCUMSTANCES HAVE BROUGHT THIS WHOLE ISSUE BEFORE US AGAIN, AND IT IS IMPORTANT THAT THERE BE NO MISUNDERSTANDING OF THE CONGRESSIONAL INTENT UNDERLYING PASSAGE OF THE WATER POLLUTION AMENDMENTS THREE YEARS AGO. IN MARCH OF THIS YEAR, A U.S. DISTRICT COURT JUDGE RULED THAT ALL "POINT SOURCES" OF POLLUTING MATERIALS DISCHARGED INTO WATERWAYS MUST OBTAIN A PERMIT UNDER SECTION 402 OF THE ACT. FURTHERMORE, IT WAS RULED THAT THE ENVIRONMENTAL PROTECTION AGENCY HAD NO AUTHORITY TO EXEMPT CERTAIN SMALLER OPERATIONS, SUCH AS FAMILY FEEDLOTS, FROM THE PERMIT PROGRAM, SO LONG AS THEY ARE CONSIDERED "POINT SOURCES" OF POLLUTION. THE EFFECT OF THIS DECISION WAS TO OVERRULE A COMMON PRACTICE OF THE EPA FOR THE PAST SEVERAL YEARS.

CLARIFICATION PROVIDED

AT THE TIME THAT THE SENATE WAS DEBATING THE PROVISIONS OF THE 1972 WATER POLLUTION AMENDMENTS, I SPECIFICALLY ASKED ONE OF THE CHIEF LEGISLATIVE SPONSORS, SENATOR EDMUND MUSKIE OF MAINE, WHAT GUIDANCE HE COULD OFFER TO CLARIFY JUST EXACTLY WHAT AN AGRICULTURAL "POINT SOURCE" OF POLLUTION WOULD BE. IN RESPONSE, SENATOR MUSKIE TOLD ME -- FOR THE RECORD -- THE FOLLOWING:

> "IF A MAN-MADE DRAINAGE DITCH, FLUSHING SYSTEM OR OTHER SUCH DEVICE IS INVOLVED AND IF ANY MEASURABLE WASTE RESULTS AND IS DISCHARGED INTO WATER, IT IS CONSIDERED A 'POINT SOURCE.' NATURAL RUN-OFF FROM CONFINED LIVESTOCK AND POULTRY OPERATIONS ARE NOT CONSIDERED A 'POINT SOURCE' UNLESS THE FOLLOWING CONCENTRATIONS OF ANIMALS ARE EXCEEDED: 1,000 BEEF CATTLE, 700 DAIRY COWS, 290,000 BROILER CHICKENS, 180,000 LAYING HENS, 55,000 TURKEYS, 4,500 SLAUGHTER HOGS, 35,000 FEEDER PIGS, 12,000 SHEEP OR LAMBS, 145,000 DUCKS. ANY FEEDLOT OPERATIONS WHICH RESULT IN THE DIRECT DISCHARGE OF WASTE INTO A STREAM THAT TRANSVERSES THE FEEDLOT ARE CONSIDERED POINT SOURCES WITHOUT REGARD TO NUMBER OF ANIMALS INVOLVED."

ALTHOUGH THESE DEFINITIONS WERE PROVIDED ONLY AS GUIDELINES AND WERE NOT CONTAINED IN THE 1972 LAW, THEY DID REPRESENT -- CLEARLY AND PRECISELY -- THE INTENT OF THE SENATE AT THE TIME THE AMENDMENTS WERE ENACTED. IN THE CONTEXT OF THE PRESENT DILEMMA, PERHAPS IT WOULD HAVE BEEN ADVISABLE FOR CONGRESS TO SPECIFICALLY STATE THAT INTENTION WITHIN THE TEXT OF THE LEGISLATION ITSELF.

FEEDLOT RUNOFF LIMITATION

AT THE SAME TIME, I ASKED SENATOR MUSKIE TO EXPLAIN THE EXTENT TO WHICH THE LEGISLATION WOULD IMPOSE RESTRICTIONS ON ALLOWABLE FEEDLOT RUNOFF RESULTING FROM A RAIN STORM. SENATOR MUSKIE ADVISED THAT: "AS WE UNDERSTAND THE APPLICATION OF THE ZERO DISCHARGE REQUIREMENT AS IT RELATES TO RUNOFF FROM FEEDLOTS, CONTAINMENT FACILITIES MUST BE PROVIDED FOR FEEDLOTS WHICH WOULD PROVIDE COMPLETE CONTROL FOR THE RUNOFF RESULTING FROM THE 24-HOUR STORM TO BE EXPERIENCED ONCE IN A 10-YEAR PERIOD."

INFORMATION I HAD RECEIVED AT THE TIME FROM THE KANSAS LIVESTOCK ASSOCIATION INDICATED THAT SUCH A REQUIREMENT WOULD BE EXCESSIVE AND UNNECESSARY IN TERMS OF WATER POLLUTION CONTROL. ACCORDING TO THE ASSOCIATION, IT IS NOT THE 10-YEAR 24-HOUR RAIN THAT IS A PROBLEM. INSTEAD, MOST OVERFLOWS OCCUR AS A RESULT OF MORE FREQUENT, CHRONIC WET PERIODS WHICH PRESENT NO ENVIRONMENTAL HAZARD TO RECEIVING STREAMS BECAUSE OF DILUTION FACTORS. AN INTENSIVE STUDY CONDUCTED BY THE KANSAS STATE UNIVERSITY AT THE TIME SUPPORTED THAT CONTENTION. I EMPHASIZED TO MY COLLEAGUES IN THE SENATE THAT WHILE RETENTION BASINS COULD BE USED TO ACCOMMODATE NORMAL RUNOFF FROM FEEDLOTS, IT WOULD BE IMPRACTICAL AND ECONOMICALLY INFEASIBLE TO EXPECT THE SMALL FEEDLOT OPERATOR TO CONTAIN ALL RUNOFF ASSOCIATED WITH FREQUENT, HEAVY RAIN STORMS.

IN THE TIME PERIOD SINCE THE 1972 FEDERAL WATER POLLUTION CONTROL AMENDMENTS WERE ENACTED, THE ENVIRONMENTAL PROTECTION AGENCY HAS TAKEN A RATHER REASONABLE AND MODERATE POSITION WITH RESPECT TO THE REGULATIONS WHICH SMALL FARMER-FEEDERS ARE EXPECTED TO OBSERVE. THIS IS AS IT SHOULD BE, AND IT REFLECTS THE WILL OF MEMBERS OF CONGRESS WHO DID NOT INTEND THAT BURDENSOME FEDERAL INTRUSION ON SMALL PRIVATE FARM OPERATIONS BE CREATED. BUT THE RECENT STRICT RULING OF THE DISTRICT COURT MAKES IT CLEAR THAT THE EPA WILL NO LONGER BE ABLE TO EXERCISE FLEXIBLE AND REASONABLE DISCRETION IN THE APPLICATION OF THESE LAWS.

IN THE INTEREST OF PROTECTING OUR NATION'S SMALL LIVESTOCK FARMERS, THEN, IT MAY BE NECESSARY TO IMPLEMENT A PRECISE LEGISLATIVE CLARIFICATION OF "POINT SOURCES" AND "NON-POINT SOURCES" FOR THE PURPOSES OF THE PERMIT AND EFFLUENT LIMITATION PROGRAMS IN THE 1972 WATER POLLUTION CONTROL ACT. HOPEFULLY, THE TESTIMONY WE RECEIVE TODAY WILL SHED SOME LIGHT ON WHETHER SUCH A REMEDY WILL IN FACT BE NEEDED.

DREDGING AND FILLING CONTROL

I MIGHT ADD THAT THERE ARE PARALLELS BETWEEN THIS ISSUE, AND THAT WHICH HAS ARISEN SURROUNDING THE PROPER INTERPRETATION AND IMPLEMENTATION OF SECTION 404 OF THE 1972 LEGISLATION. LAST SPRING, A U.S. DISTRICT COURT JUDGE RULED THAT CONGRESS HAD INTENDED THAT THE ARMY CORPS OF ENGINEERS BE RESPONSIBLE FOR REGULATING ALL DREDGING AND FILLING OPERATIONS ON ALL WATERWAYS IN THE COUNTRY, REGARDLESS OF SIZE OR LOCATION. CORPS REGULATIONS ISSUED SUBSEQUENT TO THAT RULING HAVE TURNED THE SECTION 404 PROVISIONS INTO A VIRTUAL "WETLANDS PROTECTION ACT" THAT COULD HAVE FAR-RANGING IMPACT UPON ALL MANNER OF LOCAL, PRIVATE FARMING AND FORESTRY ACTIVITIES ADJACENT TO STREAMS, PONDS, MARSHES, ETC. IN JUNE OF THIS YEAR, I INTRODUCED LEGISLATION (S. 1843) WHICH WOULD ENSURE THAT THE JURISDICTION OF THE ARMY CORPS OF ENGINEERS DOES NOT EXCEED TRADITIONAL BOUNDARIES OF RESPONSIBILITY OVER ONLY "NAVIGABLE" WATERS USED IN INTERSTATE AND FOREIGN COMMERCE. THAT BILL WOULD ALSO ENABLE STATE AND LOCAL GOVERNMENTS TO ADMINISTER FEDERAL DREDGING AND FILLING PERMIT PROGRAMS IN SOME CASES, MUCH AS THAT WHICH IS ALREADY OPERABLE IN SECTION 402 OF THE 1972 LAW.

MR. CHAIRMAN, I TRUST THAT NEITHER CONGRESS NOR THE ENVIRONMENTAL PROTECTION AGENCY WILL PERMIT ANY EXCESSIVE, CUMBERSOME, AND EXPENSIVE FEDERAL INTRUSIONS TO DEVELOP OUT OF THE REASONABLE, MODERATE, AND EFFECTIVE WATER POLLUTION CONTROL PROGRAM ESTABLISHED IN 1972.

STATEMENT OF HON. DAVID R. OBEY, A U.S. REPRESENTATIVE FROM THE STATE OF WISCONSIN

The forthcoming Environmental Protection Agency (EPA) regulations regarding animal feedlot runoff are of great concern to environmentalists and farmers alike, both in Wisconsin and throughout the nation. In formulating those regulations it is essential that EPA balance the need for sound environmental practices and the requirements of the 1972 Amendments to the Federal Water Pollution Control Act (FWPCAA) against the financial and practical constraints faced by farmers, especially small farmers who are already caught in the throes of a worsening cost-price squeeze.

As indicated by the recent Federal Court decision (Natural Resources Defense Council vs. Russell Train, June 10, 1975) the basic flaw in EPA's previous proposed and final regulations (Federal Register, September 7, 1973, February 14, 1974) has been their failure to define a "concentrated animal feeding operation." Such a definition is essential in determining which farm practices constitute "point sources" of pollution, and which farmers must, therefore, file for National Pollutant Discharge Elimination System permits and meet the waste effluent standards established by the FWPCAA.

As Senator Nelson noted in his opening statement, it is clear that in enacting this legislation Congress "did not intend that each and every one of the nation's 1.5 million feedlots were to be considered a 'concentrated animal feeding operation,' a point source. However, the Congress . . . did intend that large feeding operations and small operations that contribute significant amounts of pollution to a waterway be considered point sources."

I believe EPA can best fulfill the intent of Congress and address the goals stated above by basing its regulations on three criteria developed by Senator Muskie in an exchange on the floor of the Senate with Senator Dole during the debate of the FWPCAA. Those criteria specify that:

1. Natural runoff from confined livestock and poultry operations is not considered a point source unless the following concentrations of animals are exceeded: 1,000 beef cattle, 700 dairy cows, 290,000 broiler chickens, 180,000 laying hens, 55,000 turkeys, 4,500 slaughter hogs, 35,000 feeder pigs, 12,000 sheep or lambs, 145,000 ducks.

2. Any feedlot operation which results in the direct discharge of waste into a stream that transverses the feedlot is considered a point source without regard to the number of animals involved.

3. If a man-made drainage ditch, flushing system or other such device is involved, and if any measurable waste results and is discharged into a stream, the feedlot is considered a point source.

While there is room to lower the animal concentration limits, regulations based on these general criteria would help ensure the integrity of the nation's waterways and at the same time save countless small farmers from assuming the financial burden of unnecessary runoff control systems for which the technical and construction resources are, in many cases, not available. As an example of how important it is it make such allowances for small farmers, consider the situation in Marathon County in my district. There are 4,000 farms in the county and the University of Wisconsin estimates that the cost of diversion construction, channel collection, detention ponds and emptying equipment would exceed $8,000 per farm. Even if those 4,000 farmers were in a position to make that sort of investment -- and many of them are not -- contractors are presently available to undertake just five jobs a year.

While taking such factors into consideration, these criteria also recognize the fact that there are some small farm operations which do contribute significant amounts of pollution to our waterways. In order to aid those farmers who must undertake pollution abatement efforts, EPA should remedy a number of deficiencies apparent in the previous proposed and final regulations. For example, precise explanations are needed of just what constitutes a "discharge" from an animal feedlot and what is meant by "process waste water." In addition, practical guidelines should be established to help farmers and farm advisors determine whether individual farms need additional runoff control.

Most importantly, financial assistance must be made available to affected farmers, and it is up to Congress to see that this is done. Grants of up to $2,500 are currently available through the Agriculture Stabilization and Conservation Service, but as indicated above, in most cases that amount would cover only a small portion of the cost of installing a runoff control system, and the statutory ceiling on grants should be raised. In addition, farmers should have the same access to Small Business Administration (SBA) loans for pollution abatement as other small businessmen. While SBA has the authority to make such loans to farmers, it has refused to in the past, and a bill requiring it to do so has passed the House and is now before a Senate Committee.

The 1972 Amendments to the Federal Water Pollution Control Act were intended to safeguard the integrity of our waterways, and not to impose unnecessary hardships on an already embattled segment of our economy -- the family farming community. If EPA formulates sound regulations and Congress provides financial assistance to affected farmers, I believe that intent can be carried out.

# # # # #

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United States Senate
SELECT COMMITTEE ON SMALL BUSINESS
(CREATED PURSUANT TO S. RES. 58, 81ST CONGRESS)
WASHINGTON, D.C. 20510

November 5, 1975

The Honorable Russell Train
Administrator
Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Dear Mr. Administrator:

On behalf of the Senate Select Committee on Small Business, the Senate Agriculture Committee, and the Senate Committee on Public Works, I would like to thank the Environmental Protection Agency (EPA) for participating in the joint hearings conducted on October 21 and 22, 1975, regarding the impact of EPA pollution abatement programs (PL 92-500, Sections 301 and 402 programs) on the family farm.

As you know, these hearings addressed the various issues raised by Federal District Court Judge Flannery's June 10, 1975, decision concerning application of Section 402 of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500). I believe this forum was most helpful in exploring a very complicated and controversial problem. The EPA's discussion of alternative proposals to comply with the Act as well as the June 10, 1975 Court Order, allowed the Committees to solicit needed information and to work with the Agency in developing a practical solution that will move this country farther toward the attainment of our clean water goals, yet not impose an inequitable burden on large numbers of family farms.

In my judgment, a clear consensus of opinion was developed during the two day hearing:

First, each and every member of Congress who expressed a view indicated that the basic approach outlined in the Muskie-Dole colloquy deserved serious consideration. Members agreed that the EPA does have discretion to define the term "concentrated animal feeding operation," and that EPA should exercise that discretion.

Second, the Muskie-Dole colloquy should provide guidance to the EPA in drafting the new regulation. There was considerable discussion over what factors should be considered in such a definition. In addition, various numerical cutoff points were discussed that ranged from adopting the formula contained in the colloquy to lowering the respective animal units to approximately 200 dairy cows.

Third, there was general agreement with the inclusion of the two other sections of the Muskie-Dole colloquy in any definition of a "concentrated animal feeding operation": (a) if a stream transverses a feedlot and animals have free access to that stream, the feedlot should be considered a point source of pollution and (b) if a man-made collection system results in a direct discharge of a pollutant to a receiving waterway, the feedlot should be considered a point source of pollution.

Finally, a number of members suggested that the EPA has and should exercise its authority, pursuant to the Act, to address various categories of point sources separately. For example, individual regulations for the National Pollutant Discharge Elimination System permit program should be drafted for the following categories: (a) concentrated animal feeding operations, (b) storm sewers, and (c) irrigation in-flows.

I hope these views will receive every consideration as EPA drafts the November 10, 1975 proposed regulations. Thank you for your continued cooperation in this matter.

Sincerely,

Hubert H Humphrey
HUBERT H. HUMPHREY
U.S. Senator

Gaylord Nelson
GAYLORD NELSON
Chairman
Select Committee on Small Business

Robert Stafford
ROBERT T. STAFFORD
U.S. Senator

James Abourezk
JAMES ABOUREZK
U.S. Senator

BILL BROCK
U.S. Senator

James O Eastland
JAMES O. EASTLAND
U.S. Senator

Walter D Huddleston
WALTER D. HUDDLESTON
U.S. Senator

George McGovern
GEORGE MCGOVERN
U.S. Senator

Walter F. Mondale
WALTER F. MONDALE
U.S. Senator

Jennings Randolph
JENNINGS RANDOLPH
U.S. Senator

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JOHN C. CULVER
U.S. Senator

Howard Baker
HOWARD H. BAKER, JR.
U.S. Senator

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QUENTIN N. BURDICK
U.S. Senator

Floyd K Haskell
FLOYD K. HASKELL
U.S. Senator

Paul Laxalt
PAUL LAXALT
U.S. Senator

Thomas J McIntyre
THOMAS J. MCINTYRE
U.S. Senator

Joseph M. Montoya
JOSEPH M. MONTOYA
U.S. Senator

Dick Clark
DICK CLARK
U.S. Senator

National Forest
Products Association

John F. Hall
Vice President
Forestry Affairs

Forest Industries Building · 1619 Massachusetts Avenue, N.W.
Washington, D.C. 20036 · 202/332-1060

November 6, 1975

The Honorable Gaylord Nelson
Chairman
Select Committee on Small Business
U.S. Senate
Washington, D.C. 20510

Dear Mr. Chairman:

Enclosed is a statement prepared by American Pulpwood Association and the National Forest Products Association concerning the impact of environmental regulations on farmers and other owners of private woodlands.

I would appreciate it if you would include this statement in the record of the October 21-22, 1975 hearings conducted by your Committee in cooperation with the Senate Agriculture and Public Works Committees.

Sincerely,

John F. Hall

John F. Hall

Acoustical and Board Products Association • Alaska Loggers Association • American Institute of Timber Construction • American Plywood Association • American Wood Preservers Institute • Appalachian Hardwood Manufacturers, Inc. • California Redwood Association • Canadian Wood Council • Federal Timber Purchasers Association • Fine Hardwoods—American Walnut Association • Hardwood Dimension Manufacturers Association • Hardwood Plywood Manufacturers Association • Industrial Forestry Association • Maple Flooring Manufacturers Association • National Oak Flooring Manufacturers Association • National Particleboard Association • National Woodwork Manufacturers Association • North American Wholesale Lumber Association • Northeastern Lumber Manufacturers Association, Inc. • Northern Hardwood and Pine Manufacturers Association, Inc. • Red Cedar Shingle & Handsplit Shake Bureau • Southern Cypress Manufacturers Association • Southern Forest Products Association • Southern Hardwood Lumber Manufacturers Association • Western Wood Moulding and Millwork Producers • Western Wood Products Association.

NATIONAL FOREST PRODUCTS ASSOCIATION
1619 Massachusetts Avenue, N. W., Washington, D. C. 20036
FORESTRY

JOINT STATEMENT OF
NATIONAL FOREST PRODUCTS ASSOCIATION
AMERICAN PULPWOOD ASSOCIATION
BEFORE THE
SENATE SELECT COMMITTEE ON SMALL BUSINESS
SENATE PUBLIC WORKS COMMITTEE
SENATE COMMITTEE ON AGRICULTURE AND FORESTRY
ON
"WILL THE FAMILY FARM SURVIVE"
October 21-22, 1975

Mr. Chairman and Members of the Committee:

The forest products industry is concerned about the growing amount of Federal regulation affecting small business especially forestry activities on farms and forestlands throughout the country. Unlike many other businesses, the small woodlot owner or farmer cannot pass the costs of environmental control along to the consumer, he must absorb these costs. The National Pollutant Discharge Elimination System permit program (NPDES) and the Corps of Engineers permit program are an extremely expensive and ineffective approach to solving water quality problems on agricultural and forestlands.

There are some four million small private woodland owners. Collectively, this group owns some 297 million acres of the 500 million acres of commercial forestland in the United States. This group supplies about 40 percent of the nation's sawtimber and about 49 percent of the nation's pulpwood production.

Recent administrative and court actions make clear that small private landowners and the forest industry will be significantly impacted by regulations developed under the Federal Water Pollution Control Act Amendments of 1972. Private landowners likely will be required to obtain Corps of Engineers' permits before harvesting activities and other timber management practices on forestlands.

We estimate that it would cost as much as $500 million for the forest industry and small landowners to comply with the requirements of the NPDES if it were extended to include only culverts, bridges, and water bars on commercial forestlands. These costs, in addition to the red tape that small private landowners would have to go through to get a permit, would be a strong disincentive for the landowner to practice any type of timber harvesting--let alone intensive forest management. (See attached Affidavit of William H. McCredie, filed by the National Forest Products Association in the U. S. District Court for the District of Columbia on the *NRDC v. Train* (D. C. C. 1629-73 Judge Flannery, June 10, 1975) suit concerning the discretionary authority of EPA to exclude point sources from the requirements of the NPDES.)

The Forest Service, under the recently passed Forest and Rangeland Renewable Resources Planning Act of 1974, is developing a program for the nation's renewable resources. Part of the program includes assessing the nation's need for timber through the year 2020. The Forest Service draft Environmental Impact Statement assesses four alternative goals for meeting the nation's wood needs. In each case increased reliance is placed on the small private woodlot owner for sawlogs and pulpwood.

Under Goal C, (that is to increase timber supplies and quality to the point where benefits are commensurate with costs) there will be a need to double the quality of sawtimber coming from private lands. There will be a need to triple the amount of pulpwood or roundwood coming from private lands. Under all of the goals, production from the small private woodlot owner, as well as other owners, must be increased substantially.

The Forest Service's Environmental Impact Statement states that:

> "The small forests are growing timber at less than half of their productive capacity. Seventy-four million acres are unstocked or understocked, and nearly 150 million acres would benefit from cultural treatment. In 1974, only 313,000 acres were planted and 280,000 acres received cultural treatment."

Thus, increased investments to improve timber production on the nation's small private land holdings are needed if the nation's wood products needs are to be met over the next 45 years. At the present time the small landowners are making little or no investments in the tree resource on their lands. The major costs and red tape required to comply with and get permits would raise the costs of forestry investments and substantially reduce the incentive to increase forest productivity.

Attachment

***

FIGURE 1 - TIMBER OUTPUT TARGETS BY OWNERSHIP CLASS, 2020, AND ACRES OF COMMERCIAL FORESTLAND

SAWTIMBER (billion board feet, Int. ¼)

Ownership	(Acreage)	1970	Goal			
			A	B	C	D
National Forest	92	12.9	12.6	15.9	20.9	28.3
(percent)		(21)	(18)	(21)	(22)	(26)
Other public	44	4.7	6.3	7.6	8.8	8.8
(percent)		(8)	(9)	(10)	(9)	(8)
Forest industry	67	18.1	16.5	16.5	19.9	19.9
(percent)		(31)	(24)	(22)	(21)	(18)
Other private	297	23.5	33.4	34.4	46.0	50.6
(percent)		(40)	(49)	(47)	(48)	(48)
TOTAL	500	59.2	68.8	74.4	95.6	107.6
(percent)		(100)	(100)	(100)	(100)	(100)

ROUNDWOOD (billion cubic feet)

National Forest	2.0	2.3	2.9	3.7	4.9
(percent)	(16)	(13)	(15)	(14)	(17)
Other public	0.8	1.4	1.7	1.9	1.9
(percent)	(7)	(8)	(9)	(7)	(7)
Forest industry	3.4	3.9	3.9	4.6	4.6
(percent)	(28)	(22)	(21)	(18)	(16)
Other private	5.9	10.2	10.5	15.9	16.9
(percent)	(49)	(57)	(55)	(61)	(60)
TOTAL	12.1	17.8	19.0	26.1	28.3
(percent)	(100)	(100)	(100)	(100)	(100)

Source: U.S. Forest Service, U.S.D.A.

Timber Goals

Through congressional action, the people of the Nation have indicated they expect the Secretary of Agriculture and the Forest Service to undertake programs to provide adequate timber supplies for current and future demands of Americans. But, there is no single best answer as to what is "adequate." Therefore, the Timber System goals were framed around alternative future demand/supply situations based upon the timber resource situation assessment and projections. These alternative goals are national in scope.

The programs developed here are limited to those authorized to the Forest Service, but they recognize the place and importance of the private sector and other public agencies in timber production. The Federal Government's key role is to help ensure an efficient production and marketing system that is responsive to present and future needs including social and environmental needs. The Forest Service, in cooperation with other agencies, provides research, information, technical advice, and other services to ensure a well-functioning forest land management and wood production system. The Forest Service also participates directly by furnishing timber supplies through NFS management.

Other Federal Agencies also manage forest land, some of which is devoted in part to timber production. It is assumed that current trends in management and wood production on other Federal land, in keeping with their respective legislative mandates, will continue.

Tentative alternative goals were posed in a draft document released to the public in March 1975. They were constructed around the general themes of achieving national self-sufficiency in natural resource supply and reducing the use of substitute materials (which generally take more energy to produce and are nonrenewable).

These tentative goals were reviewed by the public, other agencies, and within the Department of Agriculture and Forest Service. Numerous public comments focused on the desirability of including an economic efficiency goal as one of the alternatives. Also expressed was a pragmatic need to keep goals consistent with the available Situation Assessment and Program information. Further, intensive analysis on "U.S. Forest Product Trade Policies: What are the Options?" (Darr 1975) showed that (a) there is little basis for striving to achieve a particular trade balance in any one commodity such as timber, and (b) the formulation of multi-national cartels (such as those recently formed by oil-exporting countries) is unlikely in timber products trade. Therefore, it was concluded that self-sufficiency of timber supplies was not a necessary primary goal in view of present and foreseeable economic conditions.

The review and analysis then resulted in a revised set of alternative timber resource system goals:

Goal A. PROVIDE A TIMBER SUPPLY CONSISTENT WITH LOWER THAN CURRENT TRENDS IN RESEARCH, ASSISTANCE, AND MANAGEMENT EFFORTS.

Goal B. PROVIDE SUPPLIES OF TIMBER CONSISTENT WITH CURRENT POLICIES AND RECENT TRENDS IN UTILIZATION, RESEARCH, ASSISTANCE, AND MANAGEMENT EFFORTS.

Goal C. INCREASE TIMBER SUPPLIES AND QUALITY TO THE POINT WHERE BENEFITS ARE COMMENSURATE WITH COSTS.

Goal D. INCREASE THE QUANTITY AND QUALITY OF TIMBER SUPPLIES TO MEET PROJECTED INCREASES IN DEMAND AT STABLE RELATIVE PRICES.

Goal B is a "current trend" base that reflects current Forest Service direction to achieve the timber mission. It would result in continuation of the trend of roundwood prices, although the sawtimber trend would decrease slightly because of expected declines in population growth rates.

Goal A aims at a lower timber supply that can accommodate greater use of forests for other purposes and would result in a slight increase in the price trend of softwood roundwood and a slight decrease in the price trend of sawtimber.

Goal C would maximize net benefits and result in a significant lowering of the long-term price trends. Timber supplies to meet goal D would be large enough to stabilize prices of softwood sawtimber and certain high-quality hardwoods; it would also tend to reduce imports, thus contributing to national self-sufficiency.

Each of these alternative goals is intended to be consistent with other resource needs and values and to comply with environmental quality and other standards. None of the four timber goals directly reflects potential volume increases resulting from the realization of other resource system goals.

EXHIBIT I

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

NATURAL RESOURCES DEFENSE COUNCIL, INC.,
Plaintiff,
v.
RUSSELL TRAIN, Administrator of the Environmental Protection Agency, *et al.*,
Defendants,
NATIONAL FOREST PRODUCTS ASSOCIATION,
Intervening Defendant.

Civil Action
No. 1629-73

AFFIDAVIT OF WILLIAM H. McCREDIE

WILLIAM H. McCREDIE, being first duly sworn, deposes and says:

1. I am the Director, Industrial Forestry, of the National Forest Products Association, and have served in that position since January, 1973. I am responsible for the development and implementation of action programs to achieve the Association's policy objectives for long-term forest management on private forest lands.

2. From 1958 through 1972, I was employed by Simpson Timber Company of Seattle, Washington. My responsibilities included planning, location, design and appraisal of forest roads and logging operations. The last eight years, I held the position of Director, Timberland Planning with corporate responsibilities for analysis and planning for long-term forest management programs and forest land investment. My experience is primarily in the Pacific Coast States with additional experience in the Southern

Region of the United States, five western provinces of Canada, and four countries in Latin America. I obtained a B.S. degree in Forest Engineering with minor in geology from Oregon State University in 1955.

3. According to statistics published by the United States Department of Agriculture,Forest Service, the total commercial forest land in the United States was 500 million acres in 1970. Commercial forest lands are those forest lands which are producing or are capable of producing crops of industrial wood. Of the total commercial forest land, 364 million acres are privately owned; 297 million acres or 59% of the total acreage of commercial forest land are owned by approximately 4 million non-industrial private owners and 67 million acres or 13% are owned by the forest industry. The forest industry consists of over 2,000 companies which operate logging camps and primary log or pulp-wood using plants. The remaining acreage is publicly owned; the Federal Government owns 107 million acres or 21%; and the state and local governments own 29 million acres or 6%. The manufacturing plants of the domestic forest industry are almost totally dependent on the harvest of industrial roundwood (logs, pulp-wood and poles) produced on the domestic commercial forest lands, particularly that owned by the non-industrial private landowners who grow trees but do not operate wood-using plants. Of the total fourteen billion cubic feet of industrial roundwood produced from U.S. forest lands in 1970, 52% came from non-industrial private lands, 26% from forest industry lands, 15% from national forest lands, and

7% from other federal, state and local government lands. (U.S.D.A. Forest Service -- Forest Service Statistics for the *United States by state and region, 1970-1972, Tables 2 and 21.)*

4. Silviculture is the branch of forestry concerned with the growing, care, and cultivation of trees. Specific silvicultural practices vary from area to area depending on the species of tree cultivated, soil properties, rainfall, temperature, elevation, and competing species of brush and trees. Necessary silvicultural activities which may contribute to water pollution problems include development and maintenance of a road system to provide access to the trees; protection of the forests from insects, disease, and wild fire through use of tree removals and chemical and biological control agents; harvesting of trees and preparation of the site for replanting; and cultivation by control of tree density, removal of competing brush, and chemical fertilization. On forest industry lands typically at least one silvicultural operation is carried out each year during the twenty-five to eighty years required to raise a forest crop.

5. Deterioration of water quality on forestlands comes from both natural activities and man's activity. In the case of silviculture, operational activities may disturb litter and debris on the forest floor which provide natural protection from the erosive force of rain. This organic material, plus a portion of the underlying soil particles, may be carried to a stream by runoff during periods of heavy rain. All forestland water runoff is eventually channeled into a natural draw, channel or fissure, or into culverts, pipes or ditches made by man. Water runoff from forestland is continually changing in the amount of dissolved and suspended solids content in the form of organic vegetation,

chemicals and sediment. As storm water progresses downward, more and more water is collected from infinite sources on forestland and channeled into larger and larger streams. In this complex process, it is very difficult to identify any specific source of water pollutant contained in the runoff. Attempts to make a distinction between natural and man-caused changes in water quality become a costly academic exercise.

6. Silvicultural operations are not inherently waste-water producing activities. Water is not used in the sense that industrial processing or sewage treatment plants may use water, except very incidentally in such activities as fire control. Silviculture-related pollution results when natural runoff from rainfall or subterranean water outlets flows over surface areas in which either chemical fertilizers, pesticides, or fire retardants have been used or operational activities have disrupted the natural protective surface of the forest floor and exposed the underlying soil to potential erosion. Because rainfall runoff originates literally everywhere in a forest and may travel some distance over the forest floor before reaching either a man-made channel or natural stream, the suspended pollutants present at any given point, even in a designed drainage ditch, may have been picked up on another owner's property, from natural deposits on the forest floor, or from such major sources of natural pollution as earth slides or forest fire areas.

7. I have gathered information from representatives of the forest industry and the non-industrial private owners of commercial forestland concerning the water control and discharge facilities on their properties. The sample areas are located in

the states of Maine, Virginia, Tennessee, Georgia, Louisiana, Arkansas, California and Washington and in my opinion are representative of forestlands in the United States. Samples of the information obtained are contained in the attached affidavits of several timberland owners or managers. (Attachments A through F) The information obtained both with respect to the number of conveyances and the potential cost to private forestland owners of a permit program does not purport to be definitive. The estimated figures set forth in this affidavit (particularly paragraphs 8, 9 and 11) are based on limited information available to me and on my experience in silviculture over the last eighteen years. While the figures are certainly not exact, they do, in my opinion, accurately reflect the burden which would be imposed on private forestland owners if a permit system were adopted.

8. The data received indicates that an average square mile of forest industry land (640 acres) encompasses four miles of improved roads, four miles of drainage ditches and twenty culverts, bridges and/or water bars. On an average square mile of non-industrial private commercial forestland, there are an average of four miles of improved roads, two and eight-tenths miles of drainage ditches and twelve culverts, bridges and/or water bars. Extrapolating from the representative information obtained and based upon my experience in silvicultural activities, I estimate:

(a) There are approximately 420,000 miles of improved forest roads used for the transportation of the forest products and people to carry out the forest management objectives on forest industry lands.

(b) There are approximately 1,850,000 miles of roads on private non-industrial forestlands, a large portion of which are used for the transportation of forest products and persons concerned with silvicultural activities. Of course, not all of the property on private non-industrial forestlands is devoted to the commercial growing and harvesting of trees.

(c) There are approximately 420,000 miles of drainage ditches running parallel to the improved roads on forest industry lands that are divided into more than 2 million discrete segments.

(d) There are approximately 1,390,000 miles of drainage ditches running parallel to the roads on private non-industrial forestlands that are divided into more than 4 million discrete segments.

(e) There are approximately 2,100,000 culverts, bridges and water bars which provide a means for channeling surface runoff waters across roads on forest industry lands. At least 5% of these conveyances, or over 100,000, discharge water directly into continuous streams or rivers.

(f) There are approximately 4,100,000 culverts, bridges and water bars which channel surface runoff water across roads on private non-industrial forestlands. At least 5% of these conveyances, or over 200,000, discharge water directly into continuous streams or rivers.

9. Based on the foregoing, the number of NPDES permits which could be required for the discharge of water by culverts, bridges and water bars on roads providing access for silvicultural activities on all privately-owned commercial forestland could range from approximately 300,000 (if limited to conveyances directly discharging into surface waters) to over 6 million if

all culverts, bridges and water bars on these forest lands were considered. And the number could be infinitely higher if other conveyances generally used in silvicultural activities, such as temporary roads, skid trails and fire lanes were considered as "point sources" for purposes of the permit program. Since silvicultural activities on a given tract of land change from year to year and within a given year with differing discharge consequences it is possible that a new permit would be required for each conveyance each year or perhaps even more frequently.

10. I have also gathered information from these industry and non-industry forestland managers and owners regarding the expected costs to them for filing applications under an NPDES permit program. EPA has not developed an NPDES permit application form for silvicultural activities. In order to provide a common basis on which to make cost estimates, I drew up an outline (see Attachment G) of information which in my estimate would be necessary to carry out the effluent limitation approach to water quality control if applied to silvicultural activities. Some of the technical information requirements listed on Attachment G dealing with water volume, natural sediment content and man-caused pollutant content in the water discharged from or through a culvert, bridge or water bar are not presently available. To obtain this information would require the use of highly specialized and costly laboratory chemical analysis equipment and many specialized highly trained people who are presently not available. The requirements to provide highly technical information and file NPDES permit applications would work a particular hardship on farmers and other non-industrial private forestland owners who own small tracts yet wish to practice good forestry.

11. Based on the information supplied by representatives of the forest industry and private non-industrial timberland owners and my experience in silvicultural activities, my best estimate is that:

(a) The approximate time required for the forest industry companies to obtain the necessary technical data, including water volume and quality level measurements, and to complete the sample NPDES permit application for each culvert, bridge and water bar would be 7.5 man hours at an average cost of $78.00. In addition, under the law there would be a minimum filing fee of $10.00 per permit. 40 C.F.R. § 125.12(H)(4)(i)(1) The cost to non-industrial owners would probably be greater since they are generally inexperienced in the areas of obtaining technical information and processing detailed paper work and much of their work would necessarily be carried out by the employment of outside professional consultants. Nevertheless, for purposes of this rough estimate, I assume that non-industrial private land owners would have the same average cost, $88.00 per conveyance requiring a permit, for assembling the necessary information to complete the required application form.

(b) If only the minimum number of 300,000 permits were required, the cost to all private forestland owners to compile the data and prepare the applications would be approximately $26,400,000. As noted, the costs of these permits could be an annual recurring expense. If all 2,100,000 culverts, bridges and water bars on forest industry lands required a permit, the cost to the forest industry would be more than $184,000,000. If all of the 4,100,000 culverts, bridges and water bars on private non-industry forestlands required a permit, the cost to these private forestland owners could exceed $360,000,000. In total, the cost to all private forestland owners to prepare and file permits on culverts, bridges and water bars could exceed $540,000,000.

(c) The approximate costs itemized in subparagraphs (a) and (b) above -- and they are no more than my best estimates -- do not include the incalculable expense which forestland owners would incur if required to monitor on a regular basis the water quality and content of the runoff through every conveyance for which a permit were required.

12. Unlike pollution from industrial sources, forestland runoff usually includes pollution from many specific points distributed over large land areas involving many landowners and numerous pollutant variables resulting from natural and man-made activities. The volume of runoff and the concentration of pollutants in the runoff varies greatly from day to day.

A water pollution control program for silvicultural activities based on the approach of establishing effluent limitations for those conveyances (e.g., culverts) which concentrate non-point sources is completely impractical. The most realistic method of controlling pollution from non-point sources is to perform silvicultural activities in a manner which will minimize pollution. Regulation of these practices is more practical to enforce than placing an effluent limitation on a particular discharge point that cannot be controlled by conventional waste water treatment methods. The forestry practices essential to limit runoff and minimize water pollution include:

Planning:

1. Careful comprehensive planning for each working unit
2. Knowledge of soil conditions, topography, and climate impact
3. Development of written guidelines and training programs for employees

Roads:

1. Careful planning and engineering in location
2. Leave filter strips between roads and stream
3. Stay away from unstable soil conditions
4. Install adequate runoff relief drainage to handle sizable storm
5. Keep roads well maintained with proper crown and ditch grade
6. Construct minimum width roads to reduce soil disturbance

7. On temporary roads, revegate roadway and provide relief drainage after use

8. Revegetate on cut and fill slopes

Harvesting:

1. Keep equipment off rain-saturated unstable soils

2. Layout of logging units to minimize adverse impacts on streams

    a. Unit boundary on ridges in steep topography

    b. Spans for cable systems placed to provide maximum lift for logs

    c. Keep machines and logs out of creeks

3. Fall trees away from water courses

4. Minimize landing size

5. Keep water courses clear of debris

Site Preparation and Regeneration:

1. Prompt establishment of new tree crop

2. Perform machine tasks on the contour

Use of Forest Chemicals:

1. Keep chemical transfer sites away from water courses

2. Keep chemicals applications away from water courses

Prescribed Fire:

1. Reduce risk of wild fire by reduction of fuels

2. Remove fuel concentrations from water courses before burning

13. Thirteen states have enacted "Forest Practice Acts" to regulate silvicultural activities on private lands within the state. The most comprehensive of these acts are those in the timber-growing states of California, Oregon and Washington In addition there is a Model State Act for Soil Erosion and Sediment Control, which provides for regulating the practices causing sedimentation. The Model Act has been adopted in some form by eight states and is presently under active consideration by eleven others. These statutes uniformly provide for controlling pollution from silvicultural activities by overall forestry practice program and codes. To my knowledge, none of the statutes sets specific effluent discharge standards from any particular source. In my judgment, the approach of the state statutes (namely a coordinated overall forestry practice program and code) is the only enforceable and effective way in which to minimize water pollution from silvicultural activities.

William H. McCredie
WILLIAM H. McCREDIE

SUBSCRIBED AND SWORN to before me
this 21st day of December, 1973
in Washington, District of Columbia

Mary Eileen [illegible]
NOTARY PUBLIC

My Commission Expires:
April 14, 1977

Rocky Mountain
Farmers Union
P. O. BOX 628 • DENVER, COLO. 80201 • Phone (303) 371-1760
COLORADO & WYOMING

TESTIMONY OF

DARRELL HANAVAN
LEGISLATIVE DIRECTOR

ROCKY MOUNTAIN FARMERS UNION

Concerning Water Pollution Controls

Presented before

The Environmental Protection Agency Hearing

Denver, Colorado

October 29, 1975

I am Darrell Hanavan, Director of Legislative Services for Rocky Mountain Farmers Union, headquartered here in Denver, with members throughout Colorado and Wyoming. I am grateful for the opportunity to submit this statement on behalf of the membership, concerning water pollution controls.

Farmers Union is very concerned about the implications of the U.S. District Court ruling of June 10th which has ordered EPA to include all agricultural point sources of discharge within the permit program. We had previously supported the 1973 small-operator exemption from permit and record-keeping requirements. We believed then, as we do now, that it is the large agricultural operations, those significantly larger than the average family farm, that need EPA attention, because the actual and potential pollution is greater in a large operation.

The court has not changed our thinking, but has certainly changed the legal status of that argument.

Rocky Mountain Farmers Union has an administration-change recommendation to make today, a long-term request for legislative change, and a request for EPA to make a terminology definition.

The administration change which we recommend and believe to be within extant law, is for the EPA to adopt a program parallel to the Occupation Safety and Health Act program on "target industries." The target industry program is based on the "worst first" principle, and for EPA to apply it to point source pollution would be a recognition that dischargers do not all pollute equally. In the case of OSHA,they determine annually the injury and accident record of various industries and the worst of these become their priority for action.

It is possible to establish similar priorities, categories and subcategories within agriculture for feedlots, concentrated animal feeding operations and irrigation return flow. This can be done in cooperation with existing sources of farm data such as State Departments of Agriculture, land grant colleges and the USDA. Once established, and they would probably have to be broken down regionally and not nation-wide because of divergent styles of agriculture, they could be maintained and adjusted according to new evidence of offense or of good pollution control practices.

Such action would allow EPA to concentrate their efforts to reduce undesirable discharges where they find them. It would at least put a stop to this blanket kind of regulation that assumes every discharger is guilty until proven innocent.

Another feature, again borrowed from OSHA practices, might be to establish a complaint system, so that any discharger could be examined by the EPA if others have reason to complain about the practices of that operator who is not already targeted by EPA.

Another might be a kind of random examination of operators by the EPA, both for a closer understanding of the regulatory effect and to discourage that occasional flagrant violator.

That's our change of procedure request, and it ties in with our request for legislative change. There appears to be no way to get around the requirement that all point source dischargers must hold EPA discharge permits. That's what the court suit determined. Also included is the record-keeping requirement. This is what makes the EPA determination of a point source so critical. I have considerably more to say about the specific definition of point source in a moment.

We expect and predict that if categories and subcategories of dischargers are established, there will be an evident pattern of amounts of discharge, probably in relationship to the size of operation.

We therefore recommend that Congress develop, with EPA support, permanent change of legislation that would alter the permit and record-keeping requirements for the lesser-offending categories.

At this time, the EPA or a cooperating state agency, is required to establish, maintain and collect fees for hundreds of thousands of discharger permit holders. It is make-work legislation that probably doesn't even pay the cost of operation. We therefore recommend that new legislation eliminate the permit and record-keeping requirements for a large number of permit holders who have very small operations, have record of little effluent discharge, or have little potential for any substantial discharge.

We have no set figure in mind. The evidence would have to be gathered to make the decision, but it is conceivable that a majority of the agricultural point source dischargers could be exempted.

If this proposal should become law, we recommend that a couple of safeguards be included. First, we would recommend that flagrant and obvious violations be given prompt attention by EPA, regardless of size of operator or whether or not the discharger is required to have a permit. This is a tough one to define, but it's a simple recognition of reality and putting blame where it belongs instead of on everyone. Secondly, the EPA should be enabled to respond to and react to complaints of citizens about the discharge actions of an operator, again regardless of size or whether a permit is already required. And third, spot checking and random examination by EPA should be permitted, but it should be a statement of the law that such visits are done in "assistance, aid and education" theme and philosophy, that it is not to penalize an operator, but to improve an operation.

Discharge permits may be necessary in order to regulate a fraction of a percent of operators who warrant regulatory observation, and that one in several thousand that requires legal enforcement. However, if the EPA is not to be snowed under in millions of discharge permits, most of which are unnecessary in a practical sense, some form of scaled or rank-order for dischargers must be adopted and some permits and record-keeping requirements must be eliminated.

Last of all, concerning the terminology definition -- the law defines point source, but did not do so with agriculture exclusively in mind and it has given us some problems. The Federal Water Pollution Control Act Amendments of 1972 reads:

> "The term 'point source' means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged."

This is a general definition, not one written specifically for agriculture. The court opinion reads:

> ". . . it appears that Congress intended for the agency to determine, at least in the agricultural and silvicultural areas, which activities constitute point and nonpoint sources."

The court opinion refers to and quotes an exchange in the Congress, quoting Senator Muskie, a prime sponsor of the bill:

> "Guidance with respect to the identification of 'point source' and 'nonpoint source', especially as related to agriculture, will be provided in regulations and guidelines of the Administrator . . . "

As for the apparent all-inclusiveness of the point source definition, this additional section of the law sheds some light on the intent of legislation:

> "The term 'effluent limitation' means any restriction established by a State of the Administrator on quantities, rates and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance."

This effluent limitation has not yet been determined. That statement, taken in context with the point source definition, causes us to believe that the Administrator of the EPA, perhaps in conjunction with the state, has substantial latitude in defining further this current situation.

And so, from our extensive examination of the legislation, the regulations, and the court opinion, we believe that it is within the powers of the EPA to define and explain point and nonpoint sources of discharge in such a way that substantial numbers of farm operators would not be required to obtain and maintain permits or records of discharge

If this were done, it could eliminate a substantial portion of the current dilemma.

STATEMENT OF HON. ALVIN BALDUS, A U.S. REPRESENTATIVE FROM THE STATE OF WISCONSIN

Re: Exempt Small Farm Operations from point source pollution abatement definitions and requirements

Environmental Protection Agency regulations promulgated pursuant to Sections 301---effluent guidelines---and Section 402, the National Pollutant Discharge Elimination System--NPDES--under amendments to the Water Pollution Control Act--FDPCAA--of 1972 have been interpreted as applying to small farm operations. On the record, Congress never intended these strict requirements for run-off pollution control to apply to small farmers per se; it did intend to control significant point sources of pollution. It is my position that EPA, working with these Committees, ought to work toward a clearly-worded exemption of small farm operations that do not contribute significant amounts of pollution.

FWWPCA was amended in 1972 by the Congress "to restore and maintain the chemical, physical and biological integrity of the nation's waters." The Act mandates an NPDES permit for each "point source" of pollution, and that the effluent guidelines be met on a scheduled basis. EPA has contended that the Administrator has the discretion under present legislation to exempt certain classes of point sources from the Act. In February 1974, EPA ruled that animal feeding operations of less than 1,000 animals should be exempt from compliance,but the Natural Resources Defense Council (NRDC) filed suit claiming broad coverage is required under a literal interpretation of the Act. The court ruled in favor of NRDC, ordered EPA to promulgate new regulations incorporating its findings of law. The law presently applies to all operations, regardless of size and without regard to the level of run-off pollution.

The purpose of the Act is not advanced by application to small farms, and the off-setting impact it would have on Wisconsin's small farms, especially dairy, would be disastrous.

Feedlot run-off is a national problem. The Department of Agriculture's Research Service estimated in its report of October 1973, that 40 percent of U. S. dairy farms have a pollution problem. No significant relationship has been found between herd size and percentage of dairy farms with water control problems. Sixty-five to seventy-five percent of herds consisting of 25 cows or less would not meet the proposed guidelines; 65-75 percent of the herds of 50 cows or less would not meet the proposed guidelines, and 30-40 percent of the herds in excess of 100 cows would not meet the guidelines. The problem seems to emanate from operations with herds of all sizes.

The financial impact of the proposed guidelines, however, is not so equal. Results of the June 1974 USDA study indicate that the greatest financial impact will fall on dairy farmers with less than 20 head. The investment for such a farmer would be about $182-$237 per head. The price drops to $69 per head for a 30 cow herd; and $25 per head for a 150 cow herd. A farmer with 20 cows could expect to pay anywhere from $3,640 to $4,740 just to comply with the guidelines.

Given the crisis in dairying, a certain attrition could be expected if such costs of the program are accurate, and I believe they are, or slightly understated. The U. S. Department of Agriculture estimates that if the effluent guidelines were made applicable to family operations, on a national basis, approximately 4 per cent of the dairy farmers would go out of business. This attrition rate built into the program would abnormally affect Wisconsin because of Wisconsin's proportionally large number of dairy herds. According to the Wisconsin Department of Agriculture, the State has currently 51,179 herds and is the largest dairying state in the nation. The state has 15.7% of the nation's cows. Twenty-six and three-tenths percent of the dairy farms in Wisconsin have herds of 19 cows or less representing about 15,197 families. An additonal 37,087 families have herds numbering between 20 and 49 cows, with 64.1 percent of the state's herds. Together these two groups compose 86.2 percent of Wisconsin's dairy herds and are the very heart of its dairy industry, as well as the backbone of the nation's milk business. The cost estimates for those two groups alone run in excess of $135,000,000.

To the above estimates I might add these are the low end-of-the-range estimates, the total state investment under the program might be more. According to a 1972 USDA rural Environmental Assistance Report, Wisconsin's average cost for point source pollution abatement on 33 farms in Barron, Dane, Fond du Lac, Manitowoc and Rock Counties averages $12,756 per farm. Broken down per head this averaged $131.43 per head, the highest in the report. All of which is to say that the 4 percent attrition rate ascribed to the program does not give the true picture for how the program affects the dairy farmer in Wisconsin,

It seems practical to assume that the smallest farms contribute the smallest amount of pollution. If so, then it seems that to go after incremental run-off at such a drastic financial and social cost constitutes a policy and administrative error of grievous proportions. I have no doubt that a large number of farms in Wisconsin have point sources of pollution under any definition and should be urged to curb or reduce significantly their pollution contributions. But the manner by which they are urged to do so by the federal government ought not to have the side affect of putting into the streets thousands of Wisconsin's dairy families.

I hope the draft regulations EPA will promulgate subsequent to these hearings will reflect the concerns of these smaller farm operations. The administrative process will no doubt allow for comment by small farm operators, and it is my intent to alert them to make record of their concerns. Effective enforcement of the regulations, as well as continued existence of many small farm operations, depends on EPA not only listening to their concerns, but also heeding them.

CURRENT SERVICES ESTIMATES FOR FISCAL YEAR 1977

AS REQUIRED BY THE
BUDGET AND IMPOUNDMENT CONTROL ACT
OF 1974, P.L. 93-344

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET

November 10, 1975

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GENERAL NOTES

1. All years referred to are fiscal years, unless otherwise noted.

2. Detail in the tables and text of this volume may not add to the totals because of rounding.

INTRODUCTION

This document presents the current services estimates for fiscal year 1977 as required by the Congressional Budget and Impoundment Control Act of 1974 (P.L. 93–344). The Act defines the current services levels as

> ". . . the estimated outlays and proposed budget authority which would be included in the budget to be submitted pursuant to section 201 of the Budget and Accounting Act, 1921, for the ensuing fiscal year if all programs and activities were carried on during such ensuing fiscal year at the same level as the fiscal year in progress and without policy changes in such programs and activities."

The act further requires accompanying economic and programmatic assumptions underlying the estimates and calls for the Joint Economic Committee to review the budget authority and outlay estimates.

The current services estimates are neither recommended amounts nor estimates as to what the figures for 1977 will actually turn out to be. They are designed to provide a neutral base from which various alternatives may be judged. The estimates also indicate to some extent the degree to which 1977 budget outlays are predetermined under current law. To maximize the value of the current services estimates, the intent of the act is that they be prepared after most, if not all, congressional action affecting the current year has been completed. Since at the present time, there are still substantial matters pending before the Congress, these current services estimates will not be as useful in indicating the predetermined level of outlays as will be the case in the future.

Part I of this document discusses the current services concept. Parts II and III discuss the current services estimates. Part II discusses the totals and includes the underlying economic assumptions. Part III discusses the functional areas and includes information on programmatic assumptions as they affect each functional area. Part IV presents revised 1976 estimates on the basis of the same economic assumptions used in the current services estimates, but adjusted to take into account completed congressional action to date, and pending Presidential budget proposals.

Part I

THE CURRENT SERVICES CONCEPT

The President's budget in its current form has its origins in the Budget and Accounting Act of 1921. An extensive body of literature describes the 54-year evolution of the budget concepts that are used for the President's budget now. Most notably, the report of the Commission on Budget Concepts that was issued in October of 1967 is the source of much of the current conceptual basis for the President's budget.

In contrast, the current services concept is supported only by the 213 words of section 605(a) of the Congressional Budget Act. This section is supplemented by very limited legislative history. As a result, a considerable amount of interpretation of section 605(a) is essential in order to produce current services estimates.

The conceptual approach used in this document is not the only one that could be used. There is a substantial range of opinion as to what current services estimates ought to be and as to the interpretation of the words in the Budget Act.

The current services estimates for 1977 are the anticipated costs of continuing ongoing Federal programs and activities at 1976 levels without policy changes (that is, ignoring all new initiatives, Presidential and congressional, that are not yet law). In general, the 1976 level on which the current services estimate is based is that implied by enacted 1976 appropriations or, where 1976 appropriations have not yet been enacted, on the level authorized by the continuing resolution. The estimates allow for the expected future implications of current law, and for anticipated changes of a relatively uncontrollable nature (as distinct from policy changes).

More specifically:

—For entitlement programs (such as social security), the current services estimates take into account inflation adjustments mandatory under current law, changes in the benefit base (usually earnings), and the anticipated numbers of beneficiaries.

—Grants to State and local governments are assumed to be the same in the 1977 current services budget as in 1976 unless the grants are (*a*) scheduled to increase by a specific amount as a result of legislation; (*b*) tied to cost-of-living increases by legislation; or (*c*) affected by spending from prior-year commitments, e.g., highway grants.

- —Entitlement programs that are not linked to the cost of living (such as veterans compensation) are assumed to remain level except for changes in the benefit base and in the numbers of those eligible.
- —Procurement and construction activities are assumed to proceed in an orderly fashion, consistent with current law and appropriation levels. In some cases, appropriations are enacted that anticipate cost inflation of multi-year projects. In such instances, the current services estimates take into account anticipated inflation (consistent with the economic assumptions). Outlays for these programs are largely determined by prior-year contracts and obligations.
- —Interest on the public debt is estimated on the basis of the estimated deficit and the assumption that current interest rates will not change.
- —Offsetting receipts are estimated on the basis of judgment as to their most likely level, assuming: (a) no change in current law, and (b) the economic assumptions provided for the current services estimates.
- —Budget authority for certain major trust funds is a function of trust fund receipts. These are estimated using standard techniques and the economic assumptions underlying the current services estimates.
- —Since current services estimates do not take into account pending legislative proposals, the effect of pending rescissions of budget authority are excluded. In the case of deferrals, it is assumed that the deferral actions continue in effect for the period specified in the special message transmitted to the Congress under the Impoundment Control Act of 1974 (unless overturned by the Congress by September 1, 1975).

Many Federal programs are authorized for a limited number of years, but are routinely renewed. If such programs are scheduled to expire before or during 1977, it is assumed for purposes of current services estimates that they will be renewed. In addition, the current services estimates assume renewal of the following major programs:

- —general revenue sharing;
- —temporary employment assistance;
- —special unemployment assistance;
- —Federal supplemental unemployment benefits; and
- —the earned income tax credit.

In addition, the summer youth employment program is assumed to continue, even though no appropriation for the 1976 program has been enacted. Congress traditionally appropriates for this program in a Spring supplemental; the current services estimate assumes continuation of the program as funded in the 1975 spring supplemental.

For purposes of estimating receipts on a current service basis, provisions of the Tax Reduction Act of 1975 were assumed to continue, except for the rebate on 1974 tax liabilities and the tax credit on purchases of new homes, which were clearly of a one-time nature. Moreover, additional tax cuts were assumed to maintain withholding rates at current levels. The $2 import fee on petroleum is also assumed to continue.

A guiding principle in establishing a conceptual basis for the current services estimates was to make the results useful to the Congress and the public. Clearly, however, alternative approaches regarding assumptions could have been followed and might be more useful for certain purposes. Because of this, rough estimates are presented in Part II indicating what adjustments might be made to the current services estimates if different approaches were used.

It should be emphasized that in many instances the assumptions made in these current services estimates are, by the very nature of the current services concept, not consistent with Administration policy or likely congressional action.

Part II

CURRENT SERVICES TOTALS

Economic Assumptions

Current services totals are provided under four sets of economic assumptions, based on two inflation paths and two unemployment paths. Table 1 shows the four sets of economic assumptions. Estimates for major functions are shown for all four economic paths where changes in the economic assumptions have a significant impact. For illustrative purposes, details within major functions are shown only for Path I. This is done only as a matter of convenience and it is not intended to imply that Path I is the most likely path.

Table 1. ALTERNATIVE ECONOMIC ASSUMPTIONS FOR CURRENT SERVICES ESTIMATES

(Calendar years, dollar amounts in billions)

	1974 actual	Assumptions		
		1975	1976	1977
Path I—Higher Inflation, Higher Unemployment:				
Nominal GNP	1,397	1,477	1,679	1,893
GNP deflator [1]	12.0	6.4	8.0	7.0
Consumer price index [2]	12.2	6.7	8.2	6.9
Real GNP growth rate [3]	–2.1	–2.9	6.0	5.0
Unemployment rate	5.6	8.4	7.9	7.4
Path II—Higher Inflation, Lower Unemployment:				
Nominal GNP	1,397	1,477	1,699	1,934
GNP deflator [1]	12.0	6.4	8.0	7.0
Consumer price index [2]	12.2	6.7	8.2	6.9
Real GNP growth rate [3]	–2.1	–2.9	7.3	6.0
Unemployment rate	5.6	8.4	7.4	6.8
Path III—Lower Inflation, Higher Unemployment:				
Nominal GNP	1,397	1,477	1,660	1,835
GNP deflator [1]	12.0	6.4	6.0	5.0
Consumer price index [2]	12.2	6.7	6.0	5.0
Real GNP growth rate [3]	–2.1	–2.9	6.0	5.0
Unemployment rate	5.6	8.4	7.9	7.4
Path IV—Lower Inflation, Lower Unemployment:				
Nominal GNP	1,397	1,477	1,680	1,874
GNP deflator [1]	12.0	6.4	6.0	5.0
Consumer price index [2]	12.2	6.7	6.0	5.0
Real GNP growth rate [3]	–2.1	–2.9	7.3	6.0
Unemployment rate	5.6	8.4	7.4	6.8

[1] Percent change, fourth quarter over fourth quarter.

[2] Percent change, December over December.

[3] Percent change, year over year.

Summary

Based on the alternative economic assumptions in Table 1, current services outlays for 1977 range from $411 billion to $415 billion. Current services receipts and deficits are particularly sensitive to the economic assumptions used. Receipts for 1977 would vary by close to $20 billion, ranging from $361 billion to $381 billion. The resulting deficits for 1977 under Paths I through IV assumptions would be $42 billion, $31 billion, $51 billion, and $41 billion, respectively.

For purposes of making detailed estimates of outlays, the economic assumptions in Path I were used. For the sake of consistency, detailed receipts estimates were made using the same assumptions. In determining the effect on receipts of other alternative paths, less precise and less detailed estimating techniques have been used.

Budget Receipts

Based on Path I economic assumptions, Table 2 compares the current services estimate of 1976 receipts with the corresponding estimate based on the Administration's tax proposals. The current services estimate is $4.6 billion higher because of the President's proposals, including the larger tax cut.

The current services estimates of receipts assume extension of most of the provisions of the Tax Reduction Act of 1975, along with the additional reductions in personal income tax rates necessary to maintain current withholding rates. Using Path I economic assumptions, these tax law assumptions reduce 1976 receipts by $5.9 billion below what they would be if the 1975 Tax Reduction Act simply expired on December 31, 1975. The comparable reduction for 1977 would be $16.7 billion.

Table 2. 1976 BUDGET RECEIPTS—CURRENT SERVICES BASIS

Based on Path I Economic Assumptions

(In billions of dollars)

Revised Administration estimate of 1976 receipts		299.0
Elimination of proposed legislation:		
President's tax reduction proposals	11.1	
Sale of silver certificates	–0.2	
SMI premium increase	–0.1	
Tax reform proposals	–0.3	
Revised estimate based on current law		309.5
Extension of the Tax Reduction Act of 1975 [1]	–4.0	
Additional tax cuts to maintain current withholding rates	–1.9	
Current services estimate of 1976 receipts		303.6

[1] Except for the 10% rebate and the housing credit.

Under the current services concept, 1977 receipts based on the alternative economic assumptions of Paths I through IV are estimated to be $372.6 billion, $380.9 billion, $361.5 billion, and $369.7 billion, respectively.

For purposes of illustration Table 3 shows receipts by major source on a current services basis for 1976 and 1977 using Path I economic assumptions. As the table shows, receipts are projected to increase by $69 billion from 1976 to 1977 on a current services basis. This unusually large increase—which is over a five-quarter period because of the shift to the new fiscal year—results largely from assumed increases in incomes.

Table 3. BUDGET RECEIPTS BY SOURCE

(In billions of dollars)

	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Individual income taxes	122.4	126.8	130.7	166.2
Corporation income taxes	40.6	43.7	44.6	60.2
Social insurance taxes and contributions	86.4	92.6	92.5	108.2
Other	31.5	35.9	35.7	38.1
Path I	281.0	299.0	303.6	372.6
Path II[1]	(281.0)	(300.4)	(305.0)	(380.9)
Path III[1]	(281.0)	(298.0)	(302.6)	(361.5)
Path IV[1]	(281.0)	(299.3)	(303.9)	(369.7)

[1] The receipt estimate for this path was developed using less precise and less detailed estimating techniques than were used in developing the estimates for Path I.

Individual income taxes are estimated to increase by $35.5 billion from 1976 to 1977 on a current services basis using Path I economic assumptions. This increase of 27% is due largely to rising personal incomes, although assumed expiration of the housing credit adds $0.6 billion. The assumed extension of the tax cuts with additional tax cuts to maintain withholding rates reduces individual income taxes by $5.5 billion in 1976 and $13.1 billion in 1977.

Corporation income taxes are estimated to increase by $15.6 billion from 1976 to 1977 on a current services basis using Path I economic assumptions. This 35% increase is due largely to an assumed sharp increase in corporate profits. Extension of provisions of the Tax Reduction Act of 1975, as discussed earlier, reduces corporation income taxes by $0.4 billion in 1976 and $3.6 billion in 1977.

Using Path I economic assumptions, social insurance taxes are estimated to increase by $15.7 billion on a current services basis. The estimates reflect increases in the social security taxable maximum from $14,100 in calendar year 1975 to $15,300 and $16,500, respectively, in the subsequent two years. This estimate also reflects a $2.2 billion increase in unemployment tax receipts in 1977 as States increase deposits to the Treasury to pay for high levels of unemployment benefits resulting from the recession.

Indirect business taxes are projected to increase by $2.4 billion from 1976 to 1977 on a current services basis using Path I economic assumptions. These estimates assume continuation of the $2 import fee, which adds $3.0 billion to 1976 receipts ($1.0 billion of which has already been collected) and $3.6 billion in 1977. The estimates also reflect continued phaseout of the telephone excise tax by one percentage point each January.

Outlays

Table 4 shows the current services outlay estimates under the alternative economic assumptions. Under Path I, which assumes the higher inflation and unemployment rates, outlays are estimated to be $414.5 billion in 1977 using the current services concept. On the other hand, if the lower inflation and unemployment rates in Path IV are assumed, outlays would be $410.7 billion in 1977. Table 4 also shows that the increase in current services outlays from 1976 to 1977 under the alternative economic assumptions ranges from $42.6 billion (Path IV) to $45.9 billion (Path I).

Table 4. CURRENT SERVICES OUTLAY ESTIMATES

(In billions of dollars)

	1976	1977	Change
Path I (Higher inflation, higher unemployment)	368.5	414.5	45.9
Path II (Higher inflation, lower unemployment)	368.1	412.3	44.2
Path III (Lower inflation, higher unemployment)	368.5	412.9	44.3
Path IV (Lower inflation, lower unemployment)	368.1	410.7	42.6

For purposes of illustration, Table 5 shows the major components of the increase in current services outlays from 1976 to 1977 using Path I economic assumptions. As Table 5 shows, under Path I economic assumptions, nondefense payments for individuals on a current services basis are estimated to rise by $20.4 billion, from $167.1 billion in 1976 to $187.5 billion in 1977. Outlays for unemployment insurance and veterans benefits decrease due to declines in the number of unemployed and the number of veterans claiming benefits under the GI bill. Outlays for other nondefense payments for individuals are estimated to increase by $22 billion due to automatic cost-of-living increases in many of the benefit programs, higher earnings records for new retirees and increases in the number of beneficiaries.

Using Path I economic assumptions, current services outlays for the military functions of the Department of Defense are estimated to increase by $11.7 billion between 1976 and 1977. Pay raises for military and civilian personnel, including retired military personnel, account for $6.2 billion of this increase. Current services outlays for defense purchases are estimated to increase by $5.5 billion.

Table 5. CHANGE IN CURRENT SERVICES OUTLAYS, 1976 TO 1977

Based on Path I Economic Assumptions

(In billions of dollars)

1976 Current services estimate		368.5
Non-defense payments for individuals		20.4
Social security and railroad retirement	(12.1)	
Federal employees retirement and insurance	(1.8)	
Unemployment assistance	(–0.4)	
Veterans benefits	(–0.8)	
Medicare and medicaid	(5.1)	
Housing payments	(0.6)	
Public assistance and related	(2.1)	
Net interest		6.5
Department of Defense—Military		11.7
Pay raises	(4.9)	
Retired pay	(1.3)	
Purchases	(5.5)	
Major non-defense construction programs		3.4
EPA	(2.0)	
Urban mass transit	(0.5)	
Highway trust fund	(0.4)	
ERDA-plant and capital equipment	(0.2)	
Corps of Engineers	(0.2)	
Bureau of Reclamation	(0.1)	
Other	(*)	
All other		4.0
Farm income stabilization	(–0.2)	
Child nutrition	(0.4)	
Social services (HEW)	(0.2)	
GNMA special assistance	(–0.4)	
Comprehensive manpower assistance and temporary employment assistance	(–0.4)	
Export-Import Bank	(1.7)	
Federal Home Loan Bank Board	(–0.3)	
Civilian agency pay raises	(2.3)	
Allowance for contingencies	(1.5)	
Rents and royalties on the Outer Continental Shelf	(–2.0)	
Employer share, employee retirement	(–0.4)	
Other	(1.7)	
1977 Current services estimate		414.5

* Less than $50 million

Current services outlays for major nondefense construction programs are estimated to increase by $3.4 billion between 1976 and 1977, largely as a result of prior-year contracts and obligations.

Using Path I economic assumptions, the 1976 current services outlay estimate is $368.5 billion, $1.9 billion above the estimate on a Presidential budget basis. Table 6 shows the major differences between the revised 1976 Administration estimates and the current services base estimates using Path I.

The Administration has proposed legislative reforms in a number of programs, including medicare, food stamps, and social services grants. These reforms, which would result in savings of $3.7 billion in 1976, are not included in the current services estimates. The current services estimates for defense are also slightly higher ($0.2 billion) than the Administration estimates because the current services estimates reflect the levels provided in authorizing legislation.

On the other hand, the current services estimates do not include proposed funding for ConRail and other increases proposed by the Administration, which total $1.1 billion in 1976. The current services estimates also reflect the levels in the continuing resolution for programs that have not received 1976 appropriations. On balance, the levels provided under the continuing resolution are $1.0 billion below the Administration estimates.

Table 6.CHANGE IN 1976 OUTLAYS, REVISED ESTIMATE TO CURRENT SERVICES

Based on Path I Economic Assumptions

(In billions of dollars)

Revised 1976 outlay estimate		366.6
Changes attributable to:		
Exclusion of legislative proposals		3.7
Medicare	(0.7)	
OASDI	(0.2)	
Veterans GI Bill reforms	(0.6)	
Food stamp "cap" and eligibility changes	(0.5)	
Social services reforms	(0.4)	
Medicaid	(0.3)	
GSA stockpile disposal legislation	(0.2)	
Civil Service Retirement cap	(0.2)	
Public assistance	(0.2)	
Retired pay, Defense	(0.1)	
Veterans medical care	(0.1)	
All other	(*)	
Exclusion of other administration proposals		-1.1
Amendments for Middle East and other nations	(-0.6)	
ConRail proposal	(-0.4)	
Federal Energy Administration	(-0.1)	
Operating levels under continuing resolution		-1.0
Military Assistance programs	(-0.4)	
HEW health programs	(0.2)	
Community Services program	(0.2)	
Urban Mass Transit	(-0.1)	
Corps of Engineers	(-0.1)	
Indian programs	(-0.1)	
All other	(-0.8)	
Operating levels under authorizations—Defense		0.2
Summer youth employment		0.1
1976 Current services estimate		368.5

* Less than $50 million.

Table 7 shows current services outlays by agency using the Path I economic assumptions. The functional estimates are presented in Part III.

The Outlay Impact of Alternative Approaches

As stated in Part I, current services estimates might be conceptually defined in different ways. Table 8 indicates the effect on current services outlays of some of the possible alternative approaches.

Several major programs scheduled to expire during 1977 are assumed to be renewed for the purposes of these current services estimates. If it is assumed that these programs are not renewed, the current services outlays are reduced considerably. Using the Path I economic assumptions, 1977 current services outlays would be $8.0 billion less.

Table 7. OUTLAY ESTIMATES BY AGENCY

Based on Path I Economic Assumptions

(In billions of dollars)

Agency	1975 actual	1976 revised estimate [1]	Change to 1976 current services	1976 current services base	Change to 1977 current services	1977 current services estimate
Legislative branch and the Judiciary	1.0	1.2	–*	1.2	0.1	1.3
Executive Office of the President	0.1	0.1	*	0.1	–*	0.1
Funds appropriated to the President	4.0	4.5	–1.1	3.4	–0.2	3.2
Agriculture	9.7	14.0	0.4	14.3	0.8	15.1
Commerce	1.6	1.9	–0.1	1.8	0.2	2.0
Defense—Military	85.0	89.0	0.4	89.3	11.7	101.0
Defense—Civil	2.1	2.0	–0.1	2.0	0.2	2.2
Health, Education, and Welfare	112.4	126.0	2.0	128.1	18.5	146.6
Housing and Urban Development	7.5	7.6	–*	7.6	0.6	8.2
Interior	2.2	2.5	–0.1	2.4	–*	2.3
Justice	2.1	2.2	……	2.2	–*	2.2
Labor	17.6	26.5	0.1	26.6	–0.8	25.8
State	0.8	1.2	–*	1.2	–0.2	1.0
Transportation	9.2	12.4	–0.1	12.3	1.2	13.5
Treasury	41.2	45.6	–*	45.6	7.0	52.6
ERDA	3.1	4.1	–*	4.0	0.9	4.9
EPA	2.5	3.2	……	3.2	2.0	5.2
GSA	–0.[illegible]	–*	0.2	0.2	*	0.2
NASA	3.3	3.5	……	3.5	0.2	3.7
VA	16.6	17.9	0.7	18.6	–0.7	17.9
Civil Service Commission	7.0	8.5	0.2	8.7	1.7	10.4
Export—Import Bank	……	……	……	……	1.7	1.7
National Science Foundation	0.7	0.7	……	0.7	……	0.7
Railroad Retirement Board	3.1	3.4	……	3.4	0.2	3.7
Tennessee Valley Authority	0.8	1.1	……	1.1	*	1.1
Other independent agencies	5.8	4.9	–0.5	4.4	–0.3	4.1
Allowances						
Civilian agency pay raises	……	0.6	……	0.6	2.3	2.8
Contingencies	……	0.5	……	0.5	1.5	2.0
Undistributed offsetting receipts						
OCS rents and royalties	–2.4	–6.0	……	–6.0	–2.0	–8.0
Other	–11.7	–12.5	……	–12.5	–0.7	–13.2
Total	324.6	366.6	1.9	368.5	45.9	414.5

* Less than $50 million

[1] Adjusted for Path I economic assumptions

In the current services estimates, entitlement programs that increase automatically with the cost of living and fully-funded defense programs reflect anticipated inflation. No similar adjustment is made for other programs. If in developing current services estimates an adjustment were made for these other programs, current services outlays would increase by $7.5 billion for 1977 under Path I economic assumptions.

Table 8. 1977 OUTLAY IMPACT OF ALTERNATIVE APPROACHES

(in billions of dollars)

	Outlays
Non-renewal of certain programs that expire under existing law: [1]	
General revenue sharing	–3.2
Temporary employment assistance	–2.2
Special and supplemental unemployment benefits	–1.4
Earned income credit	–1.2
Total	–8.0
Estimating adjustments for inflation: [2]	
Veterans compensation, pensions, and readjustment benefits	1.3
Non-indexed grants	2.4
Other programs not adjusted for inflation:	
Defense [3]	1.2
Non-defense	2.6
Total	7.5
Impact of alternative economic assumptions:	
Path II	–2.2
Path III	–1.6
Path IV	–3.8

[1] Based on Path I unemployment rate assumptions.

[2] Based on Path I inflation assumptions. Includes only those programs not adjusted for inflation under current law. The adjustment is calulated separately for each major junction.

[3] For non-pay supplies and services other than major weapon systems.

Alternative economic assumptions can also have a major influence on budget outlays. The use of the lower unemployment and inflation rates shown in the section on economic assumptions would reduce outlays by as much as $3.8 billion from those under Path I.

Budget Authority

On a current services basis and based on the Path I economic assumptions, budget authority is estimated to total $450.4 billion in 1977, $53.8 billion more than in 1976. As shown in Table 9, the major increases in budget authority are for nondefense payments for individuals ($40.4 billion), contributions for assisted housing ($13.6 billion), Department of Defense—Military ($11.0 billion) and net interest ($6.5 billion). A $10.0 billion decline in TVA budget authority partially offsets these increases.

Table 9. CHANGE IN CURRENT SERVICES BUDGET AUTHORITY, 1976 TO 1977

Based on Path I Economic Assumptions

(In billions of dollars)

1976 Current services estimate		396.6
Non-defense payments for individuals		40.4
Social security and railroad retirement	(11.6)	
Federal employees retirement and insurance	(4.1)	
Unemployment assistance	(5.4)	
Veterans benefits	(–1.2)	
Medicare and medicaid	(4.7)	
Housing payments	(13.6)	
Public assistance and related	(2.1)	
Net interest		6.5
Department of Defense—Military		11.0
Pay raises	(5.0)	
Retired pay	(1.3)	
Purchases	(4.7)	
Major non-defense construction programs		–8.8
TVA (no need for borrowing authority in 1977)	(–10.0)	
Urban mass transit	(0.6)	
ERDA plant and capital equipment	(0.3)	
Corps of Engineers	(0.2)	
Bureau of Reclamation	(0.1)	
All other	(*)	
All other		4.7
Farm income stabilization	(–1.9)	
Child nutrition	(0.5)	
Social services (HEW)	(–0.3)	
GNMA special assistance	(–2.0)	
Comprehensive manpower assistance and temporary employment assistance	(0.6)	
Export-Import Bank	(2.2)	
Federal Home Loan Bank Board	(2.0)	
Civilian agency pay raises	(2.3)	
Allowance for contingencies	(2.2)	
Rents and royalties on the Outer Continental Shelf	(–2.0)	
Employer share, employee retirement	(–0.4)	
Other	(1.4)	
1977 Current services estimate		450.4

* Less than $50 million.

The current services estimate of 1976 budget authority on the Path I assumptions is $396.6 billion, $5.2 billion above the revised Administration estimate. As shown in Table 10, exclusion of Administration legislative proposals increases current services budget authority by $8.6 billion, with the single largest increase occuring in the highway trust fund ($6.3 billion). Exclusion of other Administration proposals reduces current services budget authority by $1.0 billion. In cases where appropriation bills have not been enacted, the assump-

Table 10. CHANGE IN 1976 BUDGET AUTHORITY, REVISED ESTIMATE TO CURRENT SERVICES

Based on Path I Economic Assumptions

(In billions of dollars)

Revised 1976 budget authority estimate after Path I adjustment		391.4
Changes attributable to:		
Exclusion of Administration legislative proposals		8.6
Highway trust fund	(6.3)	
Medicare	(–0.1)	
Veterans GI bill reforms	(0.6)	
Food stamp "cap" and eligibility changes	(0.5)	
Social services reforms	(0.4)	
Medicaid	(0.3)	
GSA stockpile disposal legislation	(0.2)	
Public assistance	(0.2)	
Retired pay, Defense	(0.1)	
Veterans medical care	(0.1)	
All other	(*)	
Exclusion of other Administration proposals		–1.0
Amendments for Middle East and other nations	(–0.5)	
ConRail proposal	(–0.4)	
Federal Energy Administration	(–0.1)	
Operating levels under continuing resolution		–2.6
Military assistance programs	(–2.3)	
HEW health programs	(0.8)	
International financial institutions	(–0.5)	
Community services program	(0.1)	
Off-systems roads, Federal Highway Administration	(0.2)	
Community development grants	(–0.2)	
Indian programs	(–0.1)	
ERDA non-defense programs	(–0.1)	
ERDA defense-related activities	(–0.1)	
All other	(–0.5)	
Operating levels under authorization—Defense		–0.3
Summer youth employment		0.4
1976 current services estimate		396.6

* Less than $50 million.

tion of operating levels under the continuing resolution or, in the case of nonpay Defense purchases, under an enacted authorization bill, reduces current services budget authority by $2.9 billion.

Table 11 shows budget authority by agency under the Path I economic assumptions.

Table 11. BUDGET AUTHORITY ESTIMATES BY AGENCY

Based on Path I Economic Assumptions

[In billions of dollars]

Function	1975 actual	1976 revised estimate [1]	Change to 1976 current services	1976 current services base	Change to 1977 current services	1977 current services estimate
Legislative branch and the Judiciary	1.1	1.2	–*	1.2	0.1	1.3
Executive Office of the President	0.1	0.1	–*	0.1	*	0.1
Funds appropriated to the President	8.7	7.9	–2.8	5.1	0.1	5.2
Agriculture	15.0	15.5	0.4	15.9	–0.9	15.0
Commerce	1.8	1.8	–0.1	1.7	0.1	1.8
Defense—Military	86.4	98.7	–0.2	98.5	11.0	109.5
Defense—Civil	1.8	2.0	–*	2.0	0.2	2.1
Health, Education and Welfare	116.7	124.5	1.5	126.0	16.8	142.8
Housing and Urban Development	48.6	24.0	–0.3	23.7	11.7	35.5
Interior	3.9	2.4	–0.2	2.3	0.1	2.3
Justice	2.1	2.1	....	2.1	....	2.1
Labor	19.8	18.4	0.4	18.9	6.1	25.0
State	1.2	0.9	–0.1	0.9	0.1	1.0
Transportation	19.2	5.1	6.5	11.5	0.5	12.0
Treasury	41.4	45.5	–*	45.5	7.1	52.6
ERDA	3.6	4.6	–0.2	4.3	0.8	5.2
EPA	8.5	0.7	....	0.7	*	0.7
GSA	–0.7	–*	0.2	0.2	–*	0.2
NASA	3.2	3.5	....	3.5	0.2	3.7
VA	16.7	18.8	0.7	19.5	–1.2	18.3
Civil Service Commission	11.7	13.3	*	13.3	4.2	17.5
Export—Import Bank	....	....	....	....	2.2	2.2
National Science Foundation	0.8	0.7	....	0.7	....	0.7
Railroad Retirement Board	2.8	3.2	....	3.2	0.5	3.7
Tennessee Valley Authority	0.1	10.1	....	10.1	–10.0	0.1
Other agencies	7.0	3.6	–0.7	2.9	2.2	5.1
Allowances:						
Civilian agency pay raises	....	0.6	....	0.6	2.3	2.8
Contingencies	....	0.8	....	0.8	2.3	3.0
Undistributed offsetting receipts:						
OCS rents and royalties	–2.4	–6.0	....	–6.0	–2.0	–8.0
Other	–11.7	–12.5	....	–12.5	–0.7	–13.2
Total	407.3	391.4	5.2	396.6	53.8	450.4

* Less than $50 million.

[1] Adjusted for Path I economic assumptions.

Part III

CURRENT SERVICES ESTIMATES BY FUNCTION

This section discusses current services budget authority and outlay estimates in terms of the major functions or purposes being served. The purpose of the functional budget classification is to compare budget authority and outlays for each major purpose regardless of which agency carries out the activity and without double counting. The functional classification is also the major accounting system used for budget control under the Budget and Impoundment Control Act of 1974. When the act is fully operative, the concurrent resolutions called for under the act will specify specific totals for each function.

The details within each function have been estimated on the basis of the Path I economic assumptions. However, the differences between between Path I and the alternative paths are also shown for each applicable function.

The estimates in this document do not reflect the passage of the State, Justice, and Commerce appropriation act, the HUD and independent agencies appropriation act, and the Agriculture and related agencies appropriation act. These appropriations were passed too late for inclusion in the detailed estimates. However, if they were taken into account, they would add approximately $0.2 billion to 1976 outlays for both the revised Administration estimates and the current services estimates.

Budget Authority Estimates by Function

Based on Path I Economic Assumptions

(In billions of dollars)

Function	1975 actual	1976 revised estimate[1]	Change to 1976 current services	1976 current services base	Change to 1977 current services	1977 current services estimate
National defense	92.8	103.8	–0.8	102.9	11.3	114.2
International affairs	4.4	6.6	–2.2	4.4	2.4	6.8
General science, space, and technology	4.1	4.4	–*	4.4	0.1	4.5
Natural resources, environment, and energy	16.2	17.9	–0.3	17.6	–8.9	8.7
Agriculture	5.9	4.1	–0.1	4.0	–1.9	2.2
Commerce and transportation	26.5	10.5	6.0	16.5	0.9	17.4
Community and regional development	5.4	5.4	–0.3	5.1	–*	5.1
Education, manpower, and social services	16.0	17.5	0.8	18.4	0.3	18.6
Health	30.0	32.0	0.9	32.9	4.8	37.7
Income security	159.3	138.6	0.6	139.2	37.2	176.5
Veterans benefits and services	16.7	18.8	0.7	19.5	–1.2	18.3
Law enforcement and justice	3.0	3.1	–*	3.1	0.1	3.2
General government	2.8	3.4	–*	3.3	0.1	3.4
Revenue sharing and general purpose fiscal assistance	7.1	7.3	–*	7.2	0.1	7.3
Interest	31.2	35.1	....	35.1	6.8	41.9
Allowances	....	1.3	....	1.3	4.5	5.8
Undistributed offsetting receipts	–14.1	–18.5	....	–18.5	–2.7	–21.2
Total	407.3	391.4	5.2	396.6	53.8	450.4

* Less than $50 million.

[1] Adjusted for Path I economic assumptions.

Outlay Estimates by Function

Based on Path I Economic Assumptions

(In billions of dollars)

Function	1975 actual	1976 revised estimate[1]	Change to 1976 current services	1976 current services base	Change to 1977 current services	1977 current services estimate
National defense	86.7	91.4	0.1	91.5	11.5	103.1
International affairs	4.4	5.3	–0.7	4.6	1.8	6.4
General science, space, and technology	4.0	4.3	–*	4.3	0.3	4.6
Natural resources, environment, and energy	9.4	11.4	–0.2	11.2	3.0	14.1
Agriculture	1.6	2.5	–0.1	2.4	–0.2	2.2
Commerce and transportation	16.0	17.8	–0.6	17.2	0.9	18.1
Community and regional development	4.4	6.1	–*	6.0	0.2	6.2
Education, manpower, and social services	15.2	18.1	0.5	18.7	–0.3	18.4
Health	27.6	31.3	1.2	32.5	5.2	37.7
Income security	108.6	128.9	1.0	129.9	16.2	146.1
Veterans benefits and services	16.6	17.9	0.7	18.6	–0.7	18.0
Law enforcement and justice	2.9	3.3	–*	3.3	*	3.3
General government	2.8	3.4	–*	3.4	0.1	3.5
Revenue sharing and general purpose fiscal assistance	7.0	7.3	–*	7.2	0.1	7.3
Interest	31.2	35.1	....	35.1	6.8	41.9
Allowances	....	1.1	....	1.1	3.8	4.8
Undistributed offsetting receipts	–14.1	–18.5	....	–18.5	–2.7	–21.2
Total	324.6	366.6	1.9	368.5	45.9	414.5

* Less than $50 million.

[1] Adjusted for Path I economic assumptions.

National Defense

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Department of Defense-Military:				
Military personnel	24,969	24,917	24,998	26,225
Retired pay	6,251	7,197	7,321	7,682
Operation and maintenance	26,224	29,390	28,671	30,770
Procurement	17,314	21,687	22,239	24,427
Research and development	8,580	9,717	9,709	10,616
Construction and other	3,281	4,923	4,430	4,853
Allowances:				
Pay raise	....	1,232	1,232	4,130
Retired pay	....	....	....	919
Deductions for offsetting receipts	–184	–391	–122	–131
Subtotal, DOD-Military	86,436	98,672	98,477	109,490
Military assistance	5,658	3,430	2,715	2,911
Atomic energy defense activities	1,767	1,935	1,804	1,867
Defense-related activites	–1,026	–270	–51	–55
Deductions for offsetting receipts	–*	–*	–*	–*
Total budget authority	**92,835**	**103,767**	**102,945**	**114,213**
Outlays				
Department of Defense-Military:				
Military personnel	24,968	24,783	24,921	26,001
Retired pay	6,242	7,196	7,320	7,681
Operation and maintenance	26,330	28,030	27,874	29,982
Procurement	16,042	16,183	16,201	18,330
Research and development	8,866	9,240	9,322	10,075
Construction and other	2,754	2,718	2,606	4,110
Allowances:				
Pay raise	....	1,194	1,194	4,047
Retired pay	....	....	....	919
Deductions for offsetting receipts	–184	–391	–122	–131
Subtotal, DOD-Military	85,018	88,952	89,316	101,015
Military assistance	1,001	963	532	291
Atomic energy defense activities	1,629	1,782	1,740	1,814
Defense-related activities	–934	–268	–50	–54
Deductions for offsetting receipts	–*	–*	–*	–*
Total outlays (Path I economic assumptions)	**86,713**	**91,429**	**91,538**	**103,066**
Impact of alternative economic assumptions:				
Lower inflation (Paths III and IV)	....	....	....	–554

* Less than $500,000

The national defense function includes the military activities of the Department of Defense, military assistance programs, atomic energy defense activities and the defense-related activities of the civilian agencies. On a current services basis, budget authority for the national defense function is estimated to increase from $102.9 billion in 1976 to $114.2 billion in 1977.[1] Outlays required to maintain current services are estimated to increase from $91.5 billion in 1976 to $103.1 billion in 1977. Most of the increase in current services estimates between 1976 and 1977 for the national defense function occur in the Department of Defense military programs. The following table compares the 1976 and 1977 current services estimates for Department of Defense military programs.

DEPARTMENT OF DEFENSE MILITARY PROGRAMS

Based on Path I Economic Assumptions

(In millions of dollars)

	1976 current services base	Change	1977 current services estimate
Budget authority			
Military, civilian, and retired pay	46,515	6,317	52,831
Purchases	51,962	[1]4,697	[1]56,659
Total	98,477	[1]11,013	[1]109,490
Outlays			
Military, civilian, and retired pay	46,502	6,218	52,720
Purchases	42,814	[1]5,481	[1]48,295
Total	89,316	[1]11,699	[1]101,015

[1] Includes financing adjustment of $0.2 billion in budget authority and $0.1 billion in outlays.

Budget authority is estimated to increase $11 billion in order to maintain the current level of services in 1977. Of this increase $6.3 billion is for military, civilian and military retired pay raises required under current law. The remaining $4.7 billion reflects the amounts needed to maintain the current level of purchases for longer lead-time items.

The comparable outlay increase for military programs between 1976 and 1977 necessary to maintain the current level of services is estimated at $6.2 billion for pay and $5.5 billion for purchases. This is a total estimated outlay increase of $11.7 billion from the 1976 to 1977 current services level.

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[1] All estimates discussed in this section are, except as otherwise expressly noted, prepared on the basis of the Path I economic assumptions.

The current services definition requires that a different basis be used for the 1976 current services estimate than is used for the revised Administration estimate. While the Administration estimate reflects presently requested military appropriations, the current services estimate reflects the level currently authorized by congressional action to date, plus the continuing resolution level in operations and maintenance programs not subject to annual authorization action. The currently authorized level is $575 million below the presently requested level in budget authority and $49 million below in outlays. These reductions are offset by an increase of $0.4 billion in budget authority and outlays due to congressional inaction on the retired pay cap, commissary subsidy savings and naval petroleum reserves legislation.

Other defense subfunctions include military assistance, atomic energy defense activities and defense-related activities. Current services budget authority for military assistance is estimated to increase between 1976 and 1977 from $2.7 to $2.9 billion due to a net decrease of $195 million in proprietary receipts from foreign governments. Current services outlays are estimated to decrease from $532 million in 1976 to $291 million in 1977. Current services outlays for advances for foreign military sales are estimated to increase by $100 million between 1976 and 1977 and outlays for the military assistance account are estimated to increase over $80 million due to spendout patterns in 1976 and 1977 that result from higher budget authority under the continuing resolution. These increases in outlays are more than offset by a $671 million decrease in current services outlays for expiring programs. The net effect of these changes, together with the decrease of $195 million in proprietary receipts from foreign governments, is an estimated decrease of $241 million in 1977 current services outlays for military assistance.

Current services budget authority for atomic energy defense activities is estimated to rise from $1.8 to $1.9 billion between 1976 and 1977, with current services outlays increasing from $1.7 to $1.8 billion. These changes represent increases necessary for the orderly maintenance of development and procurement schedules for major programs and projects.

The 1976 current services estimates for defense-related activities are $218 million above the revised Administration estimate because Congress has not acted on stockpile disposal legislation that would generate additional proprietary receipts.

International Affairs

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Foreign economic and financial assistance:				
International development assistance	1,465	2,393	1,597	1,597
Food for Peace	778	1,336	1,336	1,336
Other	1,330	2,001	676	656
Subtotal	3,573	5,730	3,609	3,589
Conduct of foreign affairs	659	762	734	876
Foreign information and exchange activities	354	426	390	427
International financial programs—Export-Import Bank [1]	(1,443)	(2,913)	(2,644)	2,240
Deductions for offsetting receipts	−178	−329	−329	−367
Total budget authority	4,408	6,589	4,404	6,765
Outlays				
Foreign economic and financial assistance:				
International development assistance	1,644	2,069	1,968	2,139
Food for Peace	934	1,070	1,070	1,070
Other	1,037	1,283	741	621
Subtotal	3,615	4,422	3,778	3,830
Conduct of foreign affairs	658	800	777	878
Foreign information and exchange activities	348	412	391	422
International financial programs—Export-Import Bank	(1,504)	(1,757)	(1,665)	1,675
Deductions for offsetting receipts	−178	−329	−329	−367
Total outlays	4,443	5,305	4,617	6,438

[1] By law, the Export-Import Bank was excluded from the budget totals from August 1, 1971 through September 30, 1976.

This function is concerned with programs of foreign economic and financial assistance, the conduct of foreign affairs, foreign information and exchange activities, and international financial programs.

On a current services basis, outlays for international affairs are estimated to increase from $4.6 billion in 1976 to $6.4 billion in 1977. Budget authority for current services is estimated to rise from $4.4 billion in 1976 to $6.8 billion in 1977.

The inclusion of the Export-Import Bank in the 1977 budget is responsible for most of the increase in the current services estimates for international affairs between 1976 and 1977. By law, the Export-Import Bank was excluded from the budget totals as of August 1971 and will be included again as of fiscal year 1977. This adds $1.7 billion in outlays and $2.2 billion in budget authority to the 1977 current services estimates.

Estimated outlays for international development assistance are expected to rise $171 million from 1976 to 1977 because of a $126 million increase in outlays for international financial institutions reflecting disbursement of prior-year subscriptions, and other increases in outlays for slow-disbursing loans in development assistance programs. The estimated current services budget authority level in 1977 assumes authorization of funds for international financial institutions. If these authorizations are not renewed, budget authority would be an estimated $50 million lower in 1977.

Termination of the Indochina postwar reconstruction program is estimated to reduce outlays for other foreign economic assistance between 1976 and 1977 by $65 million.

Outlays for the conduct of foreign affairs are estimated to increase by $101 million in 1977 because of increased assessments by international organizations. The U.S. is required, by treaty, to pay its share of these assessments. Other increases result from higher overseas operating costs.

Because the foreign aid appropriations for 1976 have not been enacted, the current services estimates for foreign economic financial assistance reflect the lower amount available under the continuing resolution; an estimated $644 million lower in outlays and $2,121 million lower in budget authority than the revised Administration estimates.

General Science, Space, and Technology

(Fiscal years; in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
General science and basic research	1,179	1,185	1,168	1,150
Manned space flight	1,506	1,776	1,776	1,974
Space science, applications, and technology	1,084	1,119	1,119	1,069
Supporting space activities	333	320	320	336
Deductions for offsetting receipts	−2	−3	−3	−2
Total budget authority	**4,100**	**4,398**	**4,381**	**4,527**
Outlays				
General science and basic research	1,063	1,137	1,133	1,141
Manned space flight	1,527	1,691	1,691	1,981
Space science, applications, and technology	1,094	1,147	1,147	1,099
Supporting space activities	337	336	336	341
Deductions for offsetting receipts	−2	−3	−3	−2
Total outlays	**4,018**	**4,309**	**4,304**	**4,560**

This function includes science and research activities of the Federal Government that have as their goal the general advancement of knowledge.

Current services outlays for general science, space, and technology are estimated to increase from $4.3 billion in 1976 to $4.6 billion in 1977. Virtually all of the increase in 1977 outlays is for manned space flight. On a current services basis, both outlays and budget authority for manned space flight are estimated to be almost $2 billion in 1977. The $290 million increase in outlays reflects prior-year obligations, while the $198 million increase in budget authority represents the additional amount needed to meet the current schedule for the space shuttle. The schedule calls for the first approach and landing test in 1977, and the first manned orbital flight in 1979.

Current services outlays and budget authority for space science, applications, and technology are projected to decline slightly with the completion of the Viking program to explore the surface of Mars.

Under the current services concept, almost no change is projected in outlays for general science and basic research, which are estimated to be $1.1 billion in both 1976 and 1977.

Natural Resources, Environment, and Energy

(Fiscal years; in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Water resources and power:				
Corps of Engineers	1,790	1,940	1,933	2,117
Tennessee Valley Authority	77	10,088	10,088	114
Department of Interior	1,551	367	367	469
Other	174	189	173	176
Subtotal	3,592	12,584	12,561	2,876
Conservation and land management	1,121	938	902	893
Recreational resources	975	866	840	896
Pollution control and abatement:				
EPA construction grants	7,666	....	....	....
Other	725	649	649	646
Subtotal	8,391	649	649	646
Energy	1,934	2,783	2,632	3,421
Other natural resources	885	910	841	908
Deductions for offsetting receipts	–745	–868	–868	–950
Total budget authority	16,153	17,863	17,557	8,690
Outlays				
Water resources and power:				
Corps of Engineers	2,070	2,005	1,947	2,157
Tennessee Valley Authority	767	1,100	1,100	1,114
Department of Interior	277	310	307	421
Other	198	197	188	188
Subtotal	3,312	3,612	3,542	3,880
Conservation and land management	1,263	1,318	1,258	1,183
Recreational resources	825	876	897	914
Pollution control and abatement:				
EPA construction grants	1,938	2,350	2,350	4,340
Other	585	730	724	723
Subtotal	2,523	3,080	3,074	5,063
Energy	1,442	2,493	2,433	3,190
Other natural resources	782	867	819	841
Deductions for offsetting receipts	–745	–868	–868	–950
Total outlays	9,401	11,378	11,156	14,121

The natural resources, environment, and energy function includes those programs whose primary purpose is to develop, manage, and maintain the Nation's natural resources and environment or to promote the conservation and development of energy resources. Total current services outlays for this function are estimated to rise from $11.2 billion in 1976 to $14.1 billion in 1977, a growth of $3.0 billion.

Current services outlays for pollution control and abatement are estimated to rise by $2.0 billion, from $3.1 billion in 1976 to $5.1 billion in 1977. This increase is due entirely to higher outlays for EPA municipal sewage treatment plant grants. It results from commitments made in prior years for these heavy construction projects with long lead times. Outlays in 1977 are, for the first time, projected to be approximately equal to the commitment levels of past years.

Current services outlays for energy are estimated to increase from $2.4 billion in 1976 to $3.2 billion in 1977. This rise reflects the development and procurement schedules for major energy research and development and uranium enrichment projects that are inherent in the Energy Research and Development Administration's 1976 budget. Their growth also would increase budget authority by $0.8 billion in 1977 and is reflected in the growth of the 1976 budget estimates for energy above the 1975 levels.

Current services outlays for water resources and power are also estimated to rise substantially—from $3.5 billion in 1976 to $3.9 billion in 1977. Most of this increase is accounted for by the additional spending that results from a continuation of current levels of effort for construction of projects by the Corps of Engineers and the Interior Department's Bureau of Reclamation. Budget authority for these two agencies is estimated to increase by $0.3 billion between 1976 and 1977.

Budget authority for the Tennessee Valley Authority is estimated to be $10 billion larger in 1976 than in either preceding or following years. This sum is an appropriation of borrowing authority for construction projects that will meet the agency's needs for several years to come. Current services outlays are estimated to remain constant at $1.1 billion in both 1976 and 1977.

Outlays for conservation and land management, recreational resources, and other natural resources are estimated to remain at just under $3 billion on a current services basis in both 1976 and 1977.

The 1976 current services outlay estimates for natural resources, environment, and energy are $0.2 billion below the Presidential budget estimates, largely because, in the absence of enacted appropriations, the levels provided under the continuing resolution (which are generally based upon 1975 levels) are used for current services estimates.

Agriculture

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Farm income stabilization	4,925	3,160	3,156	1,298
Agricultural research and services	951	935	868	868
Deductions for offsetting receipts	–17	–2	–2	–2
Total budget authority	5,859	4,094	4,023	2,164
Outlays				
Farm income stablization	785	1,527	1,523	1,340
Agricultural research and services	876	939	879	879
Deductions for offsetting receipts	–17	–2	–2	–2
Total outlays	1,645	2,464	2,400	2,216

This function includes those programs that promote the economic stability of agriculture and help to maintain and increase agricultural production.

On a current services basis, outlays for agriculture are estimated to decline from $2.4 billion in 1976 to $2.2 billion in 1977.

Due largely to changes in forecasts as to the supply and demand situation for a number of price supported commodities, outlays for farm income stabilization are expected to drop to $1,340 million in 1977, $183 million less than in 1976. The substantial decrease in budget authority from 1976 to 1977 ($1.9 billion) is due primarily to low costs for price support programs in fiscal year 1975. Appropriations for price support programs reimburse the Commodity Credit Corporation for losses sustained approximately 2 years earlier.

Current services outlays for agricultural research and services are estimated to be $879 million in 1976 and 1977, $60 million below the revised Presidential budget estimates. This difference is due largely to the fact that current services estimates are based on continuing resolution appropriation levels.[1]

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[1] Because of time constraints, these esimates do not take into account the Agriculture and related agencies appropriation bill (P.L. 94–122) that was signed into law October 21, 1975. If it were taken into account, the current services estimates for outlays would increase by approximately $0.1 billion under this function.

Commerce and Transportation

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Mortgage credit and thrift insurance:				
HUD – mortgage insurance and related programs	1,302	3,298	3,298	1,373
Agriculture – rural housing	136	124	124	124
Federal Home Loan Bank Board and other	2,000	–2,000	–2,000	....
Subtotal	3,438	1,421	1,421	1,497
Postal Service	1,875	1,712	1,708	1,766
Other advancement and regulation of commerce	851	826	810	880
Ground transportation:				
Federal aid highways	6,429	225	6,510	6,510
Urban Mass Transit Administration	8,883	525	524	1,000
Other ground transportation	1,325	1,519	1,331	1,298
Subtotal	16,636	2,269	8,365	8,808
Air transportation	2,132	2,665	2,628	2,698
Water transportation:				
Coast Guard	932	1,077	1,056	1,084
Shipping	615	564	560	660
Subtotal	1,546	1,641	1,616	1,744
Other transportation	75	82	71	72
Deductions for offsetting receipts	–91	–127	–152	–82
Total budget authority	26,461	10,489	16,468	17,383
Outlays				
Mortgage credit and thrift insurance:				
HUD – mortgage insurance and related programs	3,199	1,834	1,834	1,446
Agriculture – rural housing	–892	169	169	169
Federal Home Loan Bank Board and other	503	–749	–751	–1,110
Subtotal	2,810	1,254	1,253	505
Postal Service	1,877	1,712	1,708	1,766
Other advancement and regulation of commerce	937	788	805	1,001
Ground transportation:				
Federal aid highways	4,692	6,883	6,883	7,276
Urban Mass Transit Administration	753	1,300	1,225	1,800
Other ground transportation	1,055	1,535	1,111	1,234
Subtotal	6,501	9,718	9,219	10,310
Air transportation	2,403	2,693	2,659	2,709
Water transportation:				
Coast Guard	922	1,050	1,029	1,062
Shipping	537	628	625	755
Subtotal	1,459	1,678	1,654	1,817
Other transportation	74	82	76	74
Deductions for offsetting receipts	–91	–127	–152	–82
Total outlays	15,971	17,798	17,222	18,101

Programs for commerce and transportation include aids to business, support of the several modes of transportation, mortgage and home loan programs, the subsidy to the Postal Service, and regulatory activities in the business and transportation fields. On a current services basis, outlays for commerce and transportation are estimated to rise from $17.2 billion in 1976 to $18.1 billion in 1977. Budget authority is estimated to increase from $16.5 billion in 1976 to $17.4 billion in 1977.

Current services outlays for transportation are estimated to total $14.9 billion in 1977, $1.3 billion above the 1976 base level. Outlays for mass transit are estimated to increase by $575 million in 1977 because of prior-year obligations and the accelerated transfer of funds from interstate highway programs. Outlays for Federal aid highways are estimated to increase by $393 million in 1977 due to the substantial increase in the funds made available in recent years. The 1977 estimate for Federal aid highways assumes no change in budget authority between 1976 and 1977. Current services outlays for water transportation programs are estimated to increase by $163 million in 1977 because of higher maritime subsidies and mandatory increases in retired pay for Coast Guard personnel.

Current services outlays for mortgage credit and thrift insurance are estimated to decline from $1.3 billion in 1976 to $0.5 billion in 1977. The 1977 estimates include no additional budget authority for GNMA's special mortgage purchase program. HUD outlays for mortgage insurance and related programs are estimated to decline by $0.4 billion in 1977 largely because of reductions in the volume of mortgages purchased pursuant to special assistance operations. The HUD estimates for 1976 and 1977 assume the routine disposition of mortgages acquired under special purchase programs. Net outlays by the Federal Home Loan Bank Board are also estimated to decline by $0.4 billion in 1977, largely because the Board has completed loan disbursements to Federal Home Loan Banks for mortgage purchases under the forward commitment program that expired August 10, 1975.

Current services outlays for the Federal payment to the Postal Service are estimated to be $1.8 billion in 1977, $58 million above 1976. Outlays for "other advancement and regulation of business" are estimated to increase from $0.8 billion in 1976 to $1.0 billion in 1977. Most of this increase is for the Small Business Administration. While SBA loans are assumed to continue at 1976 levels, the estimates assume increases in interest payments to Treasury and in purchases of defaulted guaranteed loans.

The current services estimates exclude the potential impact of several major Administration proposals in the area of transportation. The Administration has proposed the elimination of the advance availability of authorizations for Federal-aid highways and the establishment of a corporation to restructure and refinance Northeast Railroads. The current services estimate assumes that 1977 authorizations for Federal aid highways would become available in 1976 as provided under current law. Thus, the current services estimate of 1976 budget authority for these programs is $6.3 billion above the revised budget estimate. On the other hand, the Administration estimates for rail transportation are above the current services estimates because they include budget authority of $0.4 billion for the purchase of securities in the proposed rail corporation.

Community and Regional Development

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Community development:				
Community development grants	2,550	2,750	2,550	2,550
Urban renewal and model cities	....	....	....	....
Other community development	1,064	1,104	1,114	1,126
Subtotal	3,614	3,854	3,664	3,676
Area and regional development	1,412	1,263	1,148	1,155
Disaster relief and insurance	352	336	311	251
Deductions for offsetting receipts	–26	–28	–28	–30
Total, budget authority	**5,351**	**5,424**	**5,095**	**5,053**
Outlays				
Community development:				
Community development grants	38	900	900	2,100
Urban renewal and model cities	1,692	1,631	1,631	975
Other community development	1,403	1,445	1,528	1,158
Subtotal	3,133	3,976	4,059	4,233
Area and regional development	938	1,578	1,469	1,509
Disaster relief and insurance	398	539	539	525
Deductions for offsetting receipts	–26	–28	–28	–30
Total, outlays	**4,443**	**6,065**	**6,038**	**6,238**

This function consists of broad-based community and regional development programs concerned with urban and rural development, and includes community development grants, regional planning grants, and similar efforts. Current services outlays for community and regional development are estimated to be $6.2 billion in 1977, $200 million above the 1976 current services level.

The new community development grant program, which replaced seven categorical grant and loan programs (such as urban renewal and model cities) is now in its first full year of operation. The current services estimates assume that budget authority under this block grant program will total $2.55 billion in 1977, the same level as in 1976. Outlays, which reflect the rate at which recipients carry out projects, are expected to total $2.1 billion in 1977, $1.2 billion over the 1976 level. Outlays for the urban renewal and model cities programs that have been replaced by the community development block grant program are estimated at $975 million in 1977, $656 million below the 1976 level. Current services outlays for other community development programs are estimated to be $1.2 billion in 1977, $370 million less than in 1976, principally because outlays by the Community Services Administration, which were unusually high in 1976 due to the late enactment of the 1975 appropriations, are expected to decrease by $105 million. Other programs, including a number of other categorical programs replaced by community development grants, are also expected to decline.

Current services outlays for area and regional development and disaster relief and insurance in 1977 are estimated to be $1.5 billion and $0.5 billion, respectively, roughly the same as the 1976 current services level.

The 1976 current services estimates for community and regional development differ slightly from the 1976 revised Presidential budget estimates. The 1976 current services outlay estimates for community development are $83 million higher than the Administration estimate due to operations of the Community Services Administration at the continuing resolution level which is above the revised Presidential estimates. This is partly offset by the effect of the continuing resolution on outlays for loans to the District of Columbia. Current services outlays for area and regional development are $109 million below the revised 1976 Presidential budget estimate, due to proposed increases not yet considered by Congress. Budget authority on a current services basis decreases $329 million for the function for the same reason. Most of this decrease is in the community development grant program.

Education, Manpower, and Social Services

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Elementary, secondary, and vocational education:				
Elementary and secondary education	2,262	2,401	2,401	2,404
Other	2,511	2,578	2,575	2,589
Subtotal	4,773	4,980	4,976	4,992
Higher education	2,564	2,911	2,910	2,708
Research and general education aids	702	781	762	922
Total education	8,040	8,672	8,648	8,622
Manpower training:				
Comprehensive manpower assistance	2,868	2,394	2,844	2,844
Temporary employment assistance	875	1,625	1,625	2,250
Other manpower training	792	1,008	1,011	953
Subtotal	4,535	5,027	5,481	6,048
Other manpower services	280	315	302	311
Total manpower	4,816	5,342	5,783	6,359
Social services:				
Grants for social services	2,013	2,372	2,822	2,537
Human development and other	1,187	1,184	1,164	1,164
Total social services	3,200	3,556	3,986	3,701
Deductions for offsetting receipts	–14	–44	–44	–44
Total budget authority	16,042	17,525	18,373	18,638
Outlays				
Elementary, secondary and vocational education:				
Elementary and secondary education	2,277	2,296	2,296	2,308
Other	2,341	2,553	2,553	2,576
Subtotal	4,618	4,849	4,849	4,884
Higher education	2,046	2,642	2,643	2,607
Research and general education aids	958	804	800	861
Total education	7,622	8,295	8,292	8,351
Manpower training:				
Comprehensive manpower assistance	2,803	3,288	3,360	2,844
Temporary employment assistance	319	2,181	2,181	2,250
Other manpower training	885	990	1,008	958
Subtotal	4,007	6,458	6,549	6,052
Other manpower services	259	313	300	307
Total manpower	4,266	6,771	6,849	6,359
Social services:				
Grants for social services	2,049	1,919	2,369	2,537
Human development and other	1,267	1,200	1,195	1,168
Total social services	3,316	3,119	3,564	3,706
Deductions for offsetting receipts	–14	–44	–44	–44
Total outlays	15,191	18,141	18,661	18,371

This function includes those outlays designed to promote the general extension of knowledge and skills and to assist individuals to become self-supporting members of society.

Current services outlays for education, manpower and social services are estimated to be $18.4 billion in 1977, $290 million below current services estimates for 1976. Current services outlays for manpower programs are estimated to decrease by $0.5 billion between 1976 and 1977, while education and social services outlays are both estimated to increase by about $0.1 billion.

Current services outlays for education are estimated to increase $59 million and budget authority is estimated to decline $26 million between 1976 and 1977. Outlays for research and general education aids are estimated to increase by $70 million, largely for library resources. This increase is the result of a transfer of nearly $150 million in budget authority from the elementary and secondary education account. The corresponding decrease in elementary and secondary education funds is more than offset by a $162 million increase in budget authority due to advances for 1977 enacted in the 1976 Education Appropriations Act.

Although 1977 outlays for higher education are estimated at essentially the same level as in 1976, budget authority is estimated to decline by $202 million since less authority will be required for student loan guarantees. Because excess authority has accumulated in this program, current services outlays can be sustained without new budget authority in 1977.

Current services outlays for manpower training and services are projected to decrease from $6.8 billion in 1976 to $6.4 billion in 1977 primarily due to a $0.5 billion decrease in comprehensive manpower assistance outlays. Outlays decrease because the carry-over balances into fiscal year 1977 are declining for State and local programs, reflecting the spendout of one-time appropriations in late 1974 and the effect of start up delays in 1975 and 1976 spending patterns.

Current services budget authority for manpower training and services is estimated to increase from $5.8 to $6.4 billion between 1976 and 1977 mainly because the current services estimates assume continuation of the temporary employment assistance program at the enrollment level reached in 1976. The effect of non-continuation of the temporary employment assistance program would be an estimated decrease in both current services budget authority and outlays of $2.25 billion in 1977. Estimated current services budget authority for comprehensive manpower assistance is higher than the revised Administration estimate primarily because a spring supplemental for summer youth employment is included in the former, but not in the latter.

Under existing law, estimated outlays for social services are $3.6 billion in 1976 and $3.7 billion in 1977. These estimates do not reflect Administration proposals to increase the State share of financial responsibility for providing such services from 25% to 35% in 1976, and to 50% in 1977. This proposal, which is reflected in the Administration estimates, would reduce outlays by an estimated $450 million in 1976 and $1.6 billion in 1977.

Current services outlays for grants for social services are expected to rise from $2.4 billion in 1976 to $2.5 billion in 1977. Budget authority of $2.8 billion in 1976 is required to compensate for an underestimate in the amount of 1975 budget authority necessary to pay the 1975 Federal share of this grant program.

Health

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Health care services:				
Medicare	16,891	18,668	18,532	22,399
Medicaid	6,996	7,949	8,262	9,092
Other health care services	1,988	1,829	2,081	2,178
Subtotal	25,876	28,446	28,875	33,669
Health research and education:				
National Institutes of Health	2,055	1,783	2,035	2,035
Other health research and education	828	603	797	799
Subtotal	2,883	2,386	2,832	2,834
Prevention and control of health problems	892	911	886	879
Health planning and construction	324	245	308	308
Deductions for offsetting receipts	–4	–39	–39	–39
Total budget authority	**29,970**	**31,950**	**32,863**	**37,652**
Outlays				
Health care services:				
Medicare	14,782	16,723	17,464	21,659
Medicaid	6,840	7,871	8,184	9,092
Other health care services	1,828	2,166	2,289	2,370
Subtotal	23,451	26,760	27,937	33,121
Health research and education:				
National Institutes of Health	1,813	2,098	2,107	2,092
Other health research and education	864	805	847	932
Subtotal	2,677	2,903	2,953	3,024
Prevention and control of health problems	883	956	913	885
Health planning and construction	640	723	742	692
Deductions for offsetting receipts	–4	–39	–39	–39
Total outlays	**27,648**	**31,303**	**32,507**	**37,684**

The health function includes programs that finance and provide health services (primarily for the aged and poor), support health research, and pay for the training of physicians and other health professionals. Current services outlays for health are projected to rise from $32.5 billion in 1976 to $37.7 billion in 1977, an increase of $5.2 billion. Two health care financing programs—medicare and medicaid—account for almost all of this increase.

On a current services basis, outlays for medicare are estimated to reach $21.7 billion in 1977, $4.2 billion above 1976; and medicaid outlays are projected to be $9.1 billion, $0.9 billion more than in 1976. Higher prices, increased numbers of beneficiaries, and increased utilization per beneficiary cause these estimate increases. Medicare enrollees are estimated to increase from 24.3 million in 1976 to 24.9 million in 1977, and the number of persons receiving services under medicaid is projected to increase from 23.2 million in 1976 to 23.6 million in 1977. On a current services basis, outlays for other health care services are estimated to increase from $2.3 to $2.4 billion. Again, higher prices in an entitlement program—the Federal Government's spending for health insurance for its civilian employees and retirees—are a major factor.

The current services estimates for health services do not reflect Administration proposals that would reduce 1976 outlays for medicare by $0.7 billion and those for medicaid by $0.3 billion. Similarly, the Administration proposals would reduce 1977 outlays by $1.9 billion for medicare and $0.7 billion for medicaid.

On a current services basis, outlays for health research and education, prevention and control of health problems, and for health planning and construction are estimated to be $4.6 billion in both 1976 and 1977. Administration estimates propose lower budget authority for these programs in 1976 than is assumed for the current services estimates—$3.5 billion versus $4.0 billion. However, outlays under the Administration proposals would be $4.6 billion, the same as the current services level, because most changes in 1976 budget authority for these programs will not be reflected in outlays until the following fiscal year.

Income Security

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
General retirement and disability insurance:				
Social security	65,664	69,506	69,499	80,584
$50 Bonus	1,750	…………	…………	…………
Railroad retirement	2,776	3,144	3,144	3,615
Special benefits for disabled coal miners	958	989	989	988
Other	15	25	25	33
Subtotal	71,163	73,663	73,656	85,220
Federal employee retirement and disability	11,596	13,246	13,246	17,368
Unemployment insurance:				
Federal unemployment benefits	2,365	410	410	1,720
Unemployment trust fund (UI)	7,676	16,275	16,253	17,241
Advances to trust fund	5,750	5,000	5,000	7,200
Interfund transactions	−785	−8,512	−8,512	−7,600
Subtotal	15,006	13,172	13,150	18,560
Public assistance and other income supplements:				
Food stamps	4,869	6,100	6,600	7,300
Child nutrition and other food programs	1,957	2,614	2,614	2,990
Public assistance	4,862	5,528	5,678	6,452
Supplemental security income	4,857	5,304	5,304	5,933
Housing assistance	44,424	17,602	17,595	31,242
Earned income credit	…………	1,200	1,200	1,200
Other	597	245	233	255
Subtotal	61,565	38,592	39,224	55,372
Deductions for offsetting receipts	−*	−35	−35	−35
Total budget authority	**159,330**	**138,638**	**139,242**	**176,485**

* Less than $500,000

This function includes income support payments to families and individuals. These payments do not require the performance of services by recipients.

Outlays for income security—particularly unemployment insurance and social security benefits and other programs with automatic cost-of-living increases—are greatly affected by economic conditions. Based on the economic assumptions associated with Path I, current

Income Security

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Outlays				
General retirement and disability insurance:				
Social security	63,647	72,410	72,620	84,547
$50 Bonus	1,678	72	72	....
Railroad retirement	3,077	3,394	3,394	3,604
Special benefits for disabled coal miners	968	989	986	983
Other	12	25	25	33
Subtotal	69,382	76,890	77,097	89,167
Federal employee retirement and disability	6,979	8,328	8,479	10,283
Unemployment insurance:				
Federal unemployment benefits	749	1,820	1,820	1,720
Unemployment trust fund (UI)	12,744	17,953	17,953	17,641
Subtotal	13,492	19,772	19,772	19,360
Public assistance and other income supplements:				
Food stamps	4,599	6,100	6,600	7,300
Child nutrition and other food programs	2,044	2,593	2,593	2,982
Public assistance	5,121	5,528	5,678	6,452
Supplemental security income	4,779	5,317	5,317	5,917
Housing assistance	2,056	2,582	2,576	3,183
Earned income credit	....	1,200	1,200	1,200
Other	197	602	595	264
Subtotal	18,796	23,923	24,559	27,298
Deductions for offsetting receipts	–*	–35	–35	–35
Total outlays (Path I economic assumptions)	**108,649**	**128,877**	**129,871**	**146,073**
Impact of alternative economic assumptions:				
Lower unemployment (Path II)	....	....	–400	–1,800
Lower inflation (Path III)	....	....	....	–1,377
Lower inflation, lower unemployment (Path IV)	....	....	–400	–3,177

* Less than $500,000

services outlays for income security are estimated to rise from $129.9 billion in 1976 to $146.1 billion in 1977.[1]

The detailed estimates shown in the accompanying tables and discussed below are based on the Path I assumptions. Path I assumes unemployment rates of 7.9% in calendar year 1976 and 7.4% in calendar year 1977. If unemployment were assumed to be 6.8% in calendar 1977 (paths II and IV) 1977 outlays for unemployment insurance would be $1.8 billion less than shown. For prices, Path I assumes that the CPI will increase by 8.2% from December 1975 to December 1976, and by 6.9% from December 1976 to December 1977. If the corresponding figures were assumed to be 6.0% and 5.0% (paths III and IV) respectively, 1977 outlays for income security would be $1.4 billion less than under Path I. About three-fifths of this decrease would be the result of lower cost-of-living increases for social security benefits.

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[1] All estimates discussed in this section are, except as otherwise expressly noted, prepared on the basis of the Path I economic assumptions.

Current services outlays for the general retirement and disability insurance subfunction are estimated to rise from $77.1 billion in 1976 to $89.2 billion in 1977. The major source of this increase is social security which is estimated to increase $11.9 billion from $72.6 billion in 1976 to $84.5 billion in 1977. About half of this increase is due to changes in the average payment to beneficiaries resulting from automatic cost-of-living increases. About a quarter of the projected increase is due to a net increase in beneficiaries, from 32.2 million in 1976 to 33.3 million in 1977. The remaining quarter of the increase is due to the influx of new beneficiaries (approximately 4 million) who are entitled to higher average benefits than those currently on the rolls, because of their higher average earnings.

Current services outlays for railroad retirement benefits are estimated to increase from $3.4 billion in 1976 to $3.6 billion in 1977. The number of beneficiaries is estimated to be about one million in both 1976 and 1977. Current services outlays for special benefits for disabled coal miners are estimated to be $983 million in 1977, $3 million below 1976. The number of beneficiaries is estimated to be about half a million in both years.

On a current services basis, outlays for civilian Federal employee retirement and disability are estimated to reach $10.3 billion in 1977, an increase of $1.8 billion over the 1976 level. The number of beneficiaries is estimated to increase from 1.5 million in 1976 to 1.6 million in 1977.

Outlays for unemployment insurance are projected to decline from $19.8 billion in 1976 to $19.4 billion in 1977 based on the Path I economic assumptions. These estimates assume weekly payments to approximately 6.0 million unemployed workers in 1976 and 5.6 million in 1977. As discussed in Part I, the estimates also assume renewal of temporary legislation that now provides extended benefits to the unemployed who have exhausted unemployment insurance benefits under permanent law and unemployment assistance to those who are ineligible for regular unemployment insurance benefits because of work history and absence of coverage. Under current law, these programs will end on March 31, 1977. If they are not renewed, 1977 outlays for unemployment insurance would be reduced by $1.4 billion. This assumed renewal of temporary legislation does not imply that the Administration will or will not seek extension.

Current services outlays for public assistance and other income supplements are estimated at $24.6 billion in 1976, increasing to $27.3 billion in 1977. Under current law and regulations, food stamp outlays are projected to be $6.6 billion in fiscal year 1976 and $7.3 billion in 1977. The average number of participants is estimated to increase from 22.4 million in 1976 to 22.5 million in 1977. Outlays for child nutrition and other food programs are estimated to increase from $2.6 billion in 1976 to $3.0 billion in 1977, due to expansion of the program under new law and automatic cost-of-living increases.

Outlays for public assistance, which includes aid to families with dependent children (AFDC), are estimated to increase almost $.8 billion to $6.5 billion in 1977. The number of recipients in this program is estimated to increase from 11.4 million in 1976 to 11.6 million in 1977.

Current services outlays for the Supplemental Security Income programs are estimated to be $5.3 billion in 1976 and $5.9 billion in 1977. Beneficiaries are projected to increase nearly 10%, reaching 4.5 million in 1977. Outlays for housing assistance are estimated to increase from $2.6 billion in 1976 to $3.2 billion in 1977 on a current services basis.

Outlays for the earned income credit—which is assumed to be renewed in the current services estimate—are estimated to be $1.2 billion for 1976 and 1977. The inclusion of this estimate does not imply that the Administration will or will not seek renewal.

The current services estimates do not reflect the impact of reforms proposed by the Administration, which would reduce these outlays by $1.0 billion in 1976 and $3.4 billion in 1977. The President's recent proposal to tighten the eligibility requirement for food stamps would reduce outlays by $400 million in 1976. Previously, the President proposed legislation to eliminate the 1% bonus to the automatic cost-of-living increases for Federal employee retirement benefits, and to reform and simplify the administration of social security and public assistance benefits.

In many income security programs, budget authority results from appropriations passed by the Congress. However, in a number of major programs, statutes provide that the receipts of the trust fund for the program are budget authority for that program. In particular, social security and unemployment receipts, which come from employment taxes and other sources, provide the budget authority for current, past, and subsequent outlays.

Housing assistance includes annual interest subsidies for long-term projects of up to 40 years. Budget authority for the lifetime of the Government's contractual obligations to these projects, is included in the initial year, while outlays are spread out over the duration of the subsidy period.

Veterans Benefits and Services

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Income security for veterans:				
Compensation and pensions	7,539	8,149	8,149	8,153
Insurance	408	431	431	469
Subtotal	7,947	8,580	8,580	8,622
Veterans education, training, and rehabilitation	4,551	5,568	6,214	4,973
Hospital and medical care for veterans	3,771	4,153	4,246	4,250
Veterans housing	2	....	....	....
Other veterans benefits and services	476	494	494	494
Deductions for offsetting receipts	−2	−2	−2	−2
Total budget authority	**16,745**	**18,794**	**19,533**	**18,338**
Outlays				
Income security for veterans:				
Compensation and pensions	7,581	8,118	8,118	8,155
Insurance	279	73	73	224
Subtotal	7,860	8,190	8,190	8,379
Veterans education, training, and rehabilitation	4,593	5,377	6,024	5,057
Hospital and medical care for veterans	3,665	3,921	4,014	3,998
Veterans housing	24	−103	−103	20
Other veterans benefits and services	458	503	503	500
Deductions for offsetting receipts	−2	−2	−2	−2
Total outlays	**16,598**	**17,886**	**18,626**	**17,952**

This function consists of programs providing benefits and services, the eligibility for which is related to prior military service.

On a current services basis, outlays for veterans benefits and services are expected to decline from $18.6 billion in 1976 to $18.0 billion in 1977. This $0.6 billion decrease in estimated outlays is the net effect of a $1.0 billion decrease in estimated outlays for readjustment benefits and a $0.4 billion increase in estimated outlays for other veterans programs.

Current services outlays for veterans education, training, and rehabilitation are estimated to decrease from $6.0 billion in 1976 to $5.1 billion in 1977 because the average number of veterans receiving readjustment benefits is expected to decline from 3.4 million in 1976 to 2.9 million in 1977.

Outlays for hospital and medical care for veterans are estimated to be $4.0 billion in 1977 on a current services basis, slightly below the 1976 level, because of a decline in construction.

On a current services basis, the $151 million increase in estimated insurance outlays, from $73 million in 1976 to $224 million in 1977, primarily reflects a past change in the timing of National Service Life Insurance Fund dividend payments. The $123 million increase in estimated veterans housing outlays, from −$103 million in 1976 to $20 million in 1977, primarily reflects a decrease in estimated receipts by the Loan Guaranty Revolving Fund.

Current services outlays for veterans compensation and pensions are estimated to be $8.2 billion in 1977, $37 million above 1976. These estimates assume that an annual average of 2.6 million veterans will receive compensation benefits in both 1976 and 1977, and that an annual average of 2.2 million veterans will receive pensions in 1976 and 1977.

The 1976 current services estimate of outlays for veterans benefits and services is $740 million above the Administration's revised estimate because it does not reflect the impact of three legislative proposals:

—repeal of the 2-year extension of eligibility for readjustment benefits, which would reduce outlays by $636 million in 1976;

—termination of readjustment benefits for future peacetime veterans, which would reduce outlays by $10 million in 1976; and,

—a requirement that private health insurers reimburse the VA medical system for VA patients who carry insurance, which would reduce medical care outlays by $93 million in 1976.

Enactment of these legislative proposals would reduce 1977 outlays more than $800 million.

Law Enforcement and Justice

(Fiscal years, in million of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Federal law enforcement and prosecution	1,627	1,820	1,794	1,794
Federal judicial activities	305	324	324	405
Federal correctional and rehabilitative activities	222	231	231	231
Law enforcement assistance	887	770	770	770
Deductions for offsetting receipts	–9	–4	–4	–4
Total budget authority	3,032	3,140	3,114	3,195
Outlays				
Federal law enforcement and prosecution	1,594	1,801	1,793	1,794
Federal judicial activities	277	317	317	393
Federal correctional and rehabilitative activities	227	261	261	240
Law enforcement assistance	853	902	902	891
Deductions for offsetting receipts	–9	–4	–4	–4
Total outlays	2,941	3,278	3,269	3,313

This function includes all programs of the Federal Government that deal with Federal law enforcement, prosecution, rehabilitation, and Federal assistance to States and localities for law enforcement programs. On a current services basis, outlays are estimated to be $3.3 billion in 1977, virtually the same as in 1976.

1977 current services outlays for Federal judicial activities are estimated to rise by 24% over 1976, to $393 million. By law, the President's budget contains estimates of the judiciary as submitted by that branch of government. This practice has been followed for the current services estimates.

Current service outlays for the Federal Prison System are estimated to decline in 1977 to $240 million, $22 million lower than 1976, due to reduced prison construction.

General Government

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
Legislative functions	634	706	706	694
Executive direction and management	65	69	69	69
Central fiscal operations	1,511	1,797	1797	1804
General property and records management	295	345	345	307
Central personnel management	94	96	96	96
Other general government	535	675	607	636
Deductions for offsetting receipts	–341	–279	–279	–205
Total budget authority	**2,794**	**3,410**	**3,342**	**3,402**
Outlays				
Legislative functions	593	728	728	736
Executive direction and management	63	70	70	68
Central fiscal operations	1,516	1,798	1,798	1,806
General property and records management	416	324	324	359
Central personnel management	88	101	101	97
Other general government	471	638	623	612
Deductions for offsetting receipts	–341	–279	–279	–205
Total outlays	**2,806**	**3,381**	**3,366**	**3,474**

General government programs encompass general Federal activities, including the legislative branch, collection of revenues, and Government-wide operations affecting supplies, personnel, and property. Current services outlays for general government programs are estimated to rise by $108 million over the 1976 current services base to $3.5 billion in 1977.

Current services outlays in 1977 for the subfunction "Other general government" are estimated to decline slightly in 1977 to a level of just over $612 million. The slight decrease is the net result of many offsetting changes. Treasury Department outlays are estimated to increase $34 million, due to a $65 million increase in "Claims, Judgments, and Relief Acts," offset by an estimated $31 million decrease in outlays of the "Presidential election campaign fund" due to the completion of the 1976 election. Estimated decreases in the Department of the Interior of $52 million are accounted for by a $40 million drop in the

Bureau of Indian Affairs in accordance with the payment schedule established in the Alaska Natives Claims Settlement Act, and a $12 million drop in the Office of Territorial Affairs. The Government Printing Office outlays are estimated to rise by $33 million due almost entirely to increased costs for postal rates and printing supplies. The American Revolution Bicentennial Administration outlays are estimated to decrease by $23 million due to the phaseout of its activities.

Outlays for "General property and records management" are estimated to be nearly $360 million in 1977, an increase of $35 million from 1976.

Current services outlays in 1976 for "Other general government" are $16 million lower than revised Presidential budget estimates due mostly to delays in approval of legislation and negotiations for annual payments for the Trust territories of the Pacific Islands and the Micronesian claims fund.

Revenue Sharing and General Purpose Fiscal Assistance

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority				
General revenue sharing	6,205	6,357	6,357	6,544
Other general purpose fiscal assistance	855	902	874	752
Total budget authority	**7,060**	**7,259**	**7,231**	**7,296**
Outlays				
General revenue sharing	6,138	6,358	6,358	6,540
Other general purpose fiscal assistance	874	900	872	750
Total outlays	**7,012**	**7,258**	**7,230**	**7,291**

This function includes Federal payments to State, local, and territorial governments that are available for general fiscal support. It includes payments in lieu of taxes, broad-purpose shared revenues, general revenue sharing, and the Federal payment to the District of Columbia.

On a current services basis, outlays and budget authority for general revenue sharing are estimated to be $6.5 billion in 1977. These estimates assume that general revenue sharing, which expires December 31, 1976 under current law, will be renewed and that budget authority will continue to increase by $150 million a year. If revenue sharing were not renewed, 1977 budget authority would drop by $4.9 billion and 1977 outlays would be reduced by $3.2 billion.

Current services outlays for other general purpose fiscal assistance are estimated to decline by $122 million between 1976 and 1977 to $750 million. This decline occurs in programs which return a percentage of receipts generated by certain Federal land holdings to the States. Payments reflect receipts in the previous fiscal period. As a result of the change in the fiscal year, the payments reflecting fiscal 1976 receipts will be made in the transition quarter. Payments made in 1977 will reflect receipts in the transition quarter, which will be lower than those for a full year.

Interest[1]

(Fiscal years, in millions of dollars)

Function and subfunction	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Budget authority and outlays				
Interest on the public debt[2]	32,665	37,500	37,500	45,100
Other interest	-1,444	-2,361	-2,361	-3,183
Total (Path I economic assumptions)	31,221	35,139	35,139	41,917
Impact of alternative economic assumptions:				
Path II	....	....	....	-360
Path III	....	....	....	330
Path IV	....	....	....	-30

[1] Excludes interest on debt issued by various agencies, which is included in the outlays of the function served. For this function budget authority equals outlays.

[2] Includes interest paid on the public debt held by Government investment accounts.

The interest function includes interest on the public debt, on uninvested funds, and other interest outlays which result from government borrowings to finance budget deficits and off-budget activities. On a current services basis, outlays for the interest function are estimated to increase by $6.8 billion to $41.9 billion in 1977.[1] This estimate reflects an assumed budget deficit of $42 billion in accordance with Path I economic assumptions and the continuation of prevailing interest rates of about 6% on 91-day bills, which was the market rate at the time these estimates were made.

Under the alternative economic assumptions, the changing deficit would result in changing borrowing costs for the Government. Path II assumptions, which result in a lower deficit, would reduce interest outlays by about $360 million in 1977 as compared with Path I assumptions. Path III assumptions—which imply a higher deficit—would increase outlays by $330 million in 1977. Path IV economic assumptions would result in a $30 million outlay savings in interest.

Outlays for interest are also sensitive to changes in interest rates. For example, a one percentage point increase in interest rates by January 1, 1976 would increase 1977 outlays by $2.3 billion. A one percentage point increase by October 1, 1976—the beginning of the fiscal year—would increase interest outlays by a lower amount—$1.3 billion.

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[1] **All estimates discussed in this section are, except as otherwise expressly noted, prepared on the basis of the Path I economic assumptions.**

INTEREST—NET IMPACT

Based on Path I Economic Assumptions

(Fiscal years, in billions of dollars)

	1975 actual	1976 revised estimate	1976 current services base	1977 current services estimate
Outlays for interest function	31.2	35.1	35.1	41.9
Interest received by trust funds	−7.7	−8.4	−8.4	−8.7
Net interest outlays	23.5	26.7	26.7	33.2
Deduct: Deposit of earnings, Federal Reserve System [1]	5.8	6.0	6.0	6.4
Net impact [2]	**17.8**	**20.7**	**20.7**	**26.8**

[1] Shown as budget receipts.

[2] Net amount of interest to be paid from receipts or other means of financing.

A substantial amount of outlays in the interest function is paid to trust funds on Government securities held by them. These payments, amounting to $8.7 billion in 1977, are deducted from outlays in arriving at budget totals, since they are intragovernmental transactions. Therefore, as shown in the table below, net interest outlays are projected to be $33.2 billion in the 1977 current services estimates.

In addition, an estimated $6.4 billion of the interest paid on securities held by the Federal Reserve banks would be returned to the Treasury as miscellaneous receipts. Hence, the net impact of interest paid on the 1977 current services totals is estimated to be $26.8 billion.

Undistributed Offsetting Receipts

Payments from one governmental account to another and receipts from the public arising from business types of transactions are offset against budget authority and outlays rather than being shown as receipts. Most such collections are deducted by agency and function or subfunction, but three major categories are undistributed by agency and function. These undistributed offsets are shown in the following table.

UNDISTRIBUTED OFFSETTING RECEIPTS

(In billions of dollars)

	1976	1977	Change
Employer share, employee retirement	–4.1	–4.5	–0.4
Interest received by trust funds	–8.4	–8.7	–0.3
Rents and royalties on the Outer Continental Shelf	–6.0	–8.0	–2.0
Total	–18.5	–21.2	–2.7

Allowances

Allowances are included in the 1976 and 1977 current services estimates to cover (1) civilian agency pay raises; and (2) a standard allowance for contingencies. The current services allowance for civilian agency pay raises is estimated to be $550 million in 1976 and $2.8 billion in 1977. The 1976 allowance reflects the effect for the October 1975 pay increase of 5%. The 1977 allowance reflects the full-year effect for the October 1975 pay increase and a 11.5% increase in October 1976 estimated on the basis of the private sector comparability provisions of current laws. Such laws also provide for a lower pay increase under certain conditions and procedures. The 1977 current services estimates assume $2.0 billion for contingencies, an increase of $1.5 billion from 1976.

Part IV

REVISED ESTIMATES FOR 1976 AND THE TRANSITION QUARTER[1]

Since the Mid-Session Review of the 1976 budget on May 30, 1975, the estimated 1976 deficit on a Presidential budget basis and following Path I economic assumptions has increased from $59.9 billion to $67.6 billion. Receipts are currently estimated at $299 billion and outlays at $366.6 billion. The deficit for the transition quarter is projected at $11.5 billion, with receipts of $83.4 billion and outlays of $94.9 billion. The following table compares the current estimate of the President's budget totals with the estimates shown in the Mid-Session Review. These estimates reflect congressional action to date, plus pending Presidential budget proposals for 1976 and the transition quarter.

Table 1. BUDGET TOTALS

(In billions of dollars)

Description	1975 actual	1976		Transition quarter	
		May estimate	Revised estimate [1]	May estimate	Revised estimate [1]
Budget receipts	281.0	299.0	299.0	86.8	83.4
Budget outlays	324.6	358.9	366.6	95.8	94.9
Deficit (-)	-43.6	-59.9	-67.6	-9.0	-11.5
Budget authority	407.3	383.8	391.4	88.8	85.8

[1] Based on Path I economic assumptions.

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[1] The estimates in Part IV have been adjusted to reflect the Path I economic assumptions. This is to avoid confusion and to facilitate use in conjunction with the current services estimates appearing in other parts of this document. To this extent, the estimates set forth in Part IV are different from the usual Presidential budget estimates, in particular those previously given to the Congress. The economic assumptions used in testimony by the Director of the Office of Management and Budget on October 21, 1975, included a calendar year 1975 average unemployment rate of 7.7%, versus 7.9% under Path I, and a percentage increase—year over year—in the consumer price index of 6.5%, versus a comparable figure under Path I of 7.6%. The October 21 Administration economic assumptions would cause relatively small differences in the receipts and outlays used in this part. Receipts would be approximately $1 billion lower and outlays would also be lower by approximately half a billion dollars, increasing the deficit by half a billion dollars.

Receipts

Receipts in 1976 are now expected to be about $299 billion, based on Path I economic assumptions. As Table 2 shows, technical reestimates and use of Path I economic assumptions have increased estimated receipts substantially—by $13.4 billion in 1976 and $3.2 billion in the transition quarter—since the Mid-Session Review. The bulk of this is due to anticipated higher incomes. These increases have been offset by Administration tax proposals since the Mid-Session Review, most notably the President's October 6 tax reduction proposals and deletion of the May 30 energy tax proposals. Changes in proposed legislation have reduced estimated receipts by $13.4 billion in 1976, including $11.1 billion for the President's tax reduction proposal. In total, therefore, the net effect of these revisions leaves estimated receipts unchanged in 1976.

The following table shows changes in estimated budget receipts by major source.

Table 2. CHANGE IN BUDGET RECEIPTS

(In billions of dollars)

	May estimate	Changes due to: President's tax reduction proposal	Changes due to: Other tax law changes	Changes due to: Reestimates and revised economic assumptions	Revised estimate [1]
Fiscal year 1976:					
Individual income taxes	121.3	–9.7	12.8	[2]2.4	126.8
Corporation income taxes	37.8	–1.4	–2.9	10.1	43.7
Social insurance taxes and contributions	90.9	....	....	1.7	92.6
Other	48.9	....	–12.2	–0.8	35.9
Total	299.0	–11.1	–2.3	[2]13.4	299.0
Transition quarter:					
Individual income taxes	38.5	–5.4	4.7	0.6	38.3
Corporation income taxes	9.9	–0.7	–1.2	2.7	10.8
Social insurance taxes and contributions	25.2	....	....	–.1	25.1
Other	13.2	....	–3.9	–*	9.3
Total	86.8	–6.1	–0.4	3.2	83.4

* Less than $50 million.

[1] Based on Path I economic assumptions.

[2] Includes $1.2 billion increase due to revised accounting for the earned income credit.

Outlays

Spending in 1976 is now expected to total $366.6 billion, $7.7 billion more than was expected at the time of the Mid-Session Review. Table 3 shows the sources of the major changes in the estimates.

Congressional action or inaction since the Mid-Session Review has added $4.6 billion to 1976. Most of the other revisions reflect changes in beneficiary levels from those assumed earlier and reestimates of outlays based on further experience or changed circumstances.

Changes in outlays by function are shown in Table 4. Some of the larger changes since the Mid-Session Review are as follows.

The national defense function decrease of $2.7 billion reflects requests for Department of Defense military appropriations, as well as a revised estimate of outlays for military assistance programs.

Table 3. CHANGE IN 1976 OUTLAYS FROM THE MID-SESSION REVIEW

(in billions of dollars)

Mid-Session Review estimate		358.9
Less: Energy tax equalization payments		-5.8
Mid-Session Review estimate, excluding energy		353.1
Congressional action and inaction:		
Inaction on reduction proposals	3.2	
(5% cap on civilian and military retirement)	(0.8)	
(Military wage board pay cap)	(0.4)	
(Medicare and medicaid)	(0.7)	
(Veterans' GI bill benefits)	(0.3)	
(GSA stockpile disposal)	(0.2)	
(Naval petroleum reserve)	(0.2)	
(Other)	(0.6)	
Appropriations added to continuing resolution	0.5	
Education appropriations veto override	0.4	
Overturn of rescissions and deferrals	0.4	
Override of vetoed child nutrition legislation	0.9	
Defense—action on authorizations and appropriations	-2.4	
Other	1.7	
Total, Congressional action and inaction		4.6
Other changes:		
Unemployment assistance	3.6	
(Unemployment trust fund)	(2.7)	
(Federally funded unemployment benefits and manpower assistance)	(0.9)	
Interest on the public debt	1.5	
Earned income credit	1.2	
Medicare and medicaid	1.1	
Amendments for Middle East and other nations	0.6	
Veterans benefits	0.4	
Public assistance	0.7	
CCC: Price support and related programs	0.4	
Tennessee Valley Authority	0.4	
Increase in Treasury interest receipts from the Federal Financing Bank	-0.9	
Proposed changes in food stamp eligibility	-0.4	
Outer Continental Shelf receipts	2.0	
All other changes	-1.8	
Total, other changes		8.9
Revised estimate (based on Path I economic assumptions)		366.6

The natural resources, environment, and energy function has increased $0.8 billion, largely due to increased outlays by the Tennessee Valley Authority and budget amendments for the energy research and development and uranium enrichment programs.

The increase of $2.1 billion in the commerce and transportation function resulted largely from: (1) a reassessment of the effects of congressional action requiring release of deferred highway funds;

(2) higher losses than expected under the Federal mortgage insurance program; (3) proposed assistance to the Consolidated Rail Corporation; and (4) increases for the Postal Service.

Table 4. CHANGE IN BUDGET OUTLAYS BY FUNCT[illegible]N

(In billions of dollars)

Function	1976			Transition quarter		
	May 30 estimate	Change	Revised estimate 1	May 30 estimate	Change	Revised estimate 1
National defense	94.1	-2.7	91.4	25.8	-1.0	[illegible]
International affairs	5.3	*	5.3	1.3	-0.1	[illegible]
General science, space, and technology	4.3	-*	4.3	1.2	-*	1.2
Natural resources, environment, and energy	10.5	0.8	11.4	3.4	-0.3	3.0
(Tennessee Valley Authority)	(0.7)	(0.4)	(1.1)	(0.2)	(0.1)	(0.2)
Agriculture	2.0	0.4	2.5	0.4	0.3	0.7
Commerce and transportation	15.7	2.1	17.8	4.0	0.5	4.5
(Federal aid highways)	(6.2)	(0.6)	(6.9)	(1.7)	(0.1)	(1.8)
Community and regional development	6.1	-*	6.1	1.6	-0.1	1.5
Education, manpower and social services	16.8	1.3	18.1	2.9	0.4	3.3
(Education, HEW)	(6.9)	(0.7)	(7.7)	(1.1)	(0.5)	(1.6)
Health	29.0	2.3	31.3	7.4	0.6	8.0
(Medicaid)	(7.2)	(0.7)	(7.9)	(1.8)	(0.3)	(2.1)
(Medicare)	(15.6)	(1.1)	(16.7)	(4.2)	(0.3)	(4.5)
Income security	123.0	5.9	128.9	32.0	1.2	33.2
(Unemployment trust fund)	(15.3)	(2.7)	(18.0)	(2.8)	(0.9)	(3.7)
(Federal unemployment benefits)	(1.1)	(0.7)	(1.8)	(0.3)	(-*)	(0.2)
(Food programs, agriculture	(8.3)	(0.1)	(8.4)	(2.3)	(-0.3)	(2.0)
(Public assistance, HEW)	(4.9)	(0.7)	(5.5)	(1.2)	(0.3)	(1.5)
(Earned income credit)	(..........)	(1.2)	(1.2)	(..........)	(..........)	(..........)
Veterans benefits and services	17.1	0.8	17.9	4.1	0.2	4.3
(Readjustment benefits)	(4.7)	(0.7)	(5.4)	(0.8)	(0.3)	(1.1)
Law enforcement and justice	3.3	-*	3.3	0.9	-*	0.9
General government	3.2	0.2	3.4	0.8	0.1	0.9
Revenue sharing and general purpose fiscal assistance	7.3	-*	7.3	1.9	0.1	2.0
Interest	34.4	0.7	35.1	9.3	0.7	10.0
(Interest on the public debt)	(36.0)	(1.5)	(37.5)	(9.7)	(0.8)	(10.5)
Allowances	6.8	-5.7	1.1	2.1	-1.8	0.4
(Energy tax equalization)	(5.8)	(-5.8)	(..........)	(1.8)	(-1.8)	(..........)
Undistributed offsetting receipts	-20.1	1.6	-18.5	-3.4	-1.5	-4.9
(Outer Continental Shelf receipts)	(-8.0)	(2.0)	(-6.0)	(-1.8)	(..........)	(-1.8)
Total	358.9	7.7	366.6	95.8	-0.9	94.9

* Less than $50 million.

1 Based on Path I economic assumptions.

The education, manpower, and social services function has increased $1.3 billion. Most of the increases result from congressional action on appropriations for various education programs and inaction on proposed reforms.

The $2.3 billion increase in the health function reflects higher estimated costs of medicaid and medicare, as well as congressional inaction on Administration reform proposals.

In the income security function, the largest single change is $2.7 billion for unemployment trust fund outlays. Revised estimates for the new special unemployment assistance program adds another $0.7

billion. Experience under this program was very limited at the time of the Mid-Session Review, and therefore accurate estimates were difficult to make. While the revised estimate is based upon additional experience, the estimates continue to be subject to considerable uncertainty. An accounting change in the treatment of the earned income credit, most of which is now recorded as an outlay rather than as a tax refund, increases outlays and receipts (but not the deficit) by $1.2 billion. Public assistance is up by $0.7 billion, reflecting revised State estimates and congressional inaction on Administration proposals. The slight increase in food programs assumes early congressional action on the President's proposed reform of the food stamp program; otherwise the increase would be substantially larger. Other increases in this function relate to congressional inaction on the proposal to set a 5% cap on retirement programs.

Greater participation than anticipated by veterans in readjustment programs and congressional action on inaction or other proposals are reflected in the increase of $0.8 billion for the veterans benefits and services function.

Considerable uncertainty surrounds any estimate of receipts from offshore oillands. Those receipts are now expected to be within the range of $4 billion to $8 billion and the mid-point of that range—$6 billion—has been chosen as the revised estimate for fiscal year 1976. Because these receipts are offset against outlays, this change increases outlays by $2 billion.

Outlays for the transition quarter are currently estimated at $94.9 billion, a decrease of $0.9 billion since the Mid-Session Review. Earlier guidelines and instructions to the agencies that there should be no new programs or major policy changes have continued in effect. Revised estimates reflect continuation of programs and beneficiary levels reflected in the 1976 presentation, and revisions in the transition quarter are principally the carryover effects of changes in 1976. There are seasonal variations for some programs, and the transition quarter figures reflect these.

Table 5 shows the outlay estimates for 1976 and the transition quarter by agency.

Table 5. CHANGE IN BUDGET OUTLAYS BY AGENCY

(In billions of dollars)

Agency	1976			Transition quarter		
	May 30 estimate	Change	Revised estimate [1]	May 30 estimate	Change	Revised estimate [1]
Legislative and judicial branches	1.2	–0.1	1.2	0.3	–*	0.3
Executive Office of the President	0.1	*	0.1	*	*	*
Funds appropriated to the President	5.3	–0.8	4.5	1.3	–0.4	0.9
Agriculture	13.0	1.0	14.0	3.4	0.1	3.5
Commerce	1.8	0.1	1.9	0.5	0.1	0.5
Defense—Military	91.1	–2.2	89.0	25.0	–0.8	24.2
Defense—Civil	1.9	0.1	2.0	0.6	–*	0.6
Health, Education, and Welfare	122.4	3.7	126.0	32.0	1.2	33.2
Housing and Urban Development	7.6	*	7.6	2.0	–*	2.0
Interior	2.5	–*	2.5	0.8	–*	0.8
Justice	2.2	*	2.2	0.6	–*	0.6
Labor	22.8	3.7	26.5	4.1	1.1	5.2
State	1.1	0.1	1.2	0.4	*	0.4
Transportation	11.5	0.9	12.4	3.1	*	3.1
Treasury	43.5	2.1	45.6	11.6	0.7	12.4
ERDA	3.8	0.2	4.1	1.1	*	1.2
EPA	3.2	*	3.2	1.1	–0.3	0.8
GSA	–0.4	0.4	–*	–0.1	*	–0.1
NASA	3.5	...	3.5	0.9	–*	0.9
VA	17.1	0.8	17.9	4.1	0.2	4.3
Civil Service Commission	8.1	0.4	8.5	2.1	–*	2.0
National Science Foundation	0.7	...	0.7	0.2	...	0.2
Railroad Retirement Board	3.4	–*	3.4	0.9	*	0.9
Tennessee Valley Authority	0.7	0.4	1.1	0.2	0.1	0.2
Other agencies	3.9	1.0	4.9	0.9	0.3	1.2
Allowances:						
Energy tax equalization payments	5.8	–5.8	...	1.8	–1.8	...
Civilian agency pay raises	0.6	...	0.6	0.2	...	0.2
Contingencies	0.4	0.1	0.5	0.2	...	0.2
Undistributed offsetting receipts:						
OCS rents and royalties	–8.0	2.0	–6.0	–1.8	...	–1.8
Interest received by trust funds	–8.1	–0.3	–8.4	–0.7	–1.5	–2.1
Employer share, employee retirement	–3.9	–0.1	–4.1	–1.0	–*	–1.0
Total	358.9	7.7	366.6	95.8	–0.9	94.9

* Less than $50 million

[1] Based on Path I economic assumptions

Budget Authority

Budget authority for fiscal year 1976 is presently estimated at $391.4 billion, an increase of $7.5 billion since the Mid-Session Review. The major elements in this increase are presented in Table 6.

In most cases these changes are reflected in amendments, rescissions or other documents submitted to the Congress. In several cases, such as in the child nutrition program, substantive entitlement legislation

Table 6. CHANGE IN BUDGET AUTHORITY FROM THE MID-SESSION REVIEW

(In billions of dollars)

Mid-Session Review estimate		383.8
Less: Energy tax equalization payments		–5.8
Mid-Session Review estimate, excluding energy		378.0
Congressional action and inaction:		
Inaction on reduction proposals	2.3	
(5% cap on civilian and military retirement)	(0.6)	
(Public assistance)	(0.5)	
(Military wage board pay cap)	(0.4)	
(Veterans GI bill benefits)	(0.3)	
(GSA stockpile disposal)	(0.2)	
(Naval petroleum reserve)	(0.2)	
(Other)	(0.1)	
Appropriations added to continuing resolution	0.8	
Education appropriations veto override	1.1	
Overturn of rescissions	0.2	
Override of vetoed child nutrition legislation	0.8	
Defense—action on authorizations and appropriations	–4.9	
Other	0.4	
Total, Congressional action and inaction		0.6
Other changes:		
Unemployment assistance	9.0	
(Unemployment trust fund)	(7.4)	
(Temporary unemployment assistance)	(1.6)	
(Federal unemployment benefits assistance)	(0.1)	
Special assistance functions fund	2.0	
Interest on the public debt	1.5	
Tennessee Valley Authority	5.0	
Amendments for Middle East and other nations	0.5	
Earned income credit	1.2	
Veterans GI bill benefits	0.6	
Medicare and medicaid	1.4	
Public assistance (cash payments)	0.3	
Social services	0.7	
Social security	1.1	
Proposed changes in food stamp eligibility	–0.4	
Increase in Treasury interest receipts from the Federal Financing Bank	–0.9	
Annual contributions for assisted housing [1]	–9.1	
Interest received by trust funds	–0.4	
Urban mass transportation fund	0.5	
ConRail proposal	0.4	
OCS receipts	2.0	
International financial institutions	–0.2	
CCC price support and related programs	–0.2	
All other changes	–2.2	
Total, other changes		12.8
Revised estimate (based on Path I economic assumptions)		391.4

[1] Technical adjustment due to redefinition of budget authority.

has been enacted but a supplemental appropriation request for the necessary budget authority has not yet been submitted. Some of the changes, such as for unemployment assistance, veterans benefits, and health programs, are caused by beneficiary participation that is higher than projected. Adequate budget authority to carry out current law has been projected in the estimates. Budget authority for assisted housing programs has been adjusted due to a technical redefinition; no change in the proposed level of activity during 1976 is involved. Table 7 presents the changes in budget authority by function, and table 8 shows these changes by agency.

Budget authority in the transition quarter is estimated at $85.8 billion, $3.0 billion below the May estimate. Differences reflect the impact of 1976 changes in the transition quarter and revised estimates for present programs. No new programs or policy changes are assumed in the transition quarter.

Table 7. CHANGE IN BUDGET AUTHORITY BY FUNCTION

(In billions of dollars)

Function	1976			Transition quarter		
	May 30 estimate	Change	Revised estimate [1]	May 30 estimate	Change	Revised estimate [1]
National defense	107.8	–4.0	103.8	25.2	–1.0	24.2
International affairs	6.3	0.3	6.6	1.3	–0.3	1.0
General science, space, and technology	4.4	–*	4.4	1.2	–*	1.1
Natural resources, environment, and energy	12.6	5.3	17.9	2.2	–0.1	2.2
(Tennessee Valley Authority)	(5.1)	(5.0)	(10.1)	(*)	(..........)	(*)
Agriculture	4.3	–0.2	4.1	0.3	*	0.3
Commerce and transportation	7.0	3.4	10.5	2.0	*	2.1
(Mortgage assistance)	(*)	(2.0)	(2.0)	(*)	(..........)	(*)
Community and regional development	5.4	–*	5.4	0.5	*	0.5
Education, manpower and social services	13.8	3.7	17.5	4.8	0.1	4.9
(Education, HEW)	(6.7)	(1.2)	(8.0)	(2.9)	(0.2)	(3.2)
(Temporary employment assistance)	(..........)	(1.6)	(1.6)	(..........)	(..........)	(..........)
(Public assistance social services)	(1.7)	(0.7)	(2.4)	(0.5)	(–0.1)	(0.4)
Health	31.0	1.0	32.0	7.7	0.6	8.3
(Medicaid)	(7.2)	(0.8)	(7.9)	(1.8)	(0.3)	(2.1)
(Medicare)	(18.5)	(0.1)	(18.7)	(4.5)	(0.3)	(4.9)
Income security	138.1	0.6	138.6	28.0	–0.2	27.9
(Unemployment trust fund)	(8.9)	(7.4)	(16.3)	(2.8)	(0.4)	(3.2)
(Federal unemployment benefits)	(0.4)	(..........)	(0.4)	(0.1)	(..........)	(0.1)
(Food programs, Agriculture)	(8.3)	(0.1)	(8.3)	(2.3)	(–0.2)	(2.1)
(Public assistance, HEW)	(4.9)	(0.7)	(5.5)	(1.2)	(0.3)	(1.5)
(Assisted Housing, HUD)	(26.1)	(–9.1)	(17.0)	(..........)	(*)	(*)
Veterans benefits and services	17.8	1.0	18.8	4.2	0.3	4.5
(Readjustment benefits)	(4.7)	(0.8)	(5.6)	(0.9)	(0.3)	(1.2)
Law enforcement and justice	3.2	–*	3.1	0.8	*	0.8
General government	3.3	0.1	3.4	0.9	*	0.9
Revenue sharing and general purpose fiscal assistance	7.3	–*	7.3	1.9	0.1	2.0
Interest	34.4	0.7	35.1	9.3	–0.7	10.0
(Interest on the public debt)	(36.0)	(1.5)	(37.5)	(9.7)	(0.8)	(10.5)
Allowances	7.1	–5.8	1.3	1.9	–1.8	0.1
(Energy tax equalization)	(5.8)	(–5.8)	(..........)	(1.8)	(–1.8)	(..........)
Undistributed offsetting receipts	–20.1	1.6	[illegible]	–3.4	–1.5	–4.9
(Outer Continental Shelf receipts)	(–8.0)	(2.0)	(–6.0)	(–1.8)	(..........)	(–1.8)
Total	383.8	7.5	391.4	88.8	–3.0	85.8

* Less than $50 million.

[1] Based on Path I economic assumptions.

Table 8. CHANGE IN BUDGET AUTHORITY BY AGENCY

(In billions of dollars)

Agency	1976			Transition quarter		
	May 30 estimate	Change	Revised estimate [1]	May 30 estimate	Change	Revised estimate [1]
Legislative and judicial branches	1.2	-*	1.2	0.3	-*	0.3
Executive Office of the President	0.1	-*	0.1	*	*	*
Funds appropriated to the President	7.6	0.3	7.9	1.6	-0.8	0.8
Agriculture	15.3	0.2	15.5	3.2	-0.2	3.0
Commerce	1.7	*	1.8	0.4	-*	0.4
Defense—Military	103.0	-4.4	98.7	24.0	-0.6	23.4
Defense—Civil	2.0	*	2.0	0.6	*	0.6
Health, Education, and Welfare	119.9	4.6	124.5	32.1	1.4	33.5
Housing and Urban Development	31.0	-7.0	24.0	0.4	0.1	0.5
Interior	2.5	-0.1	2.4	0.8	-*	0.8
Justice	2.1	-*	2.1	0.5	-*	0.5
Labor	11.0	7.4	18.4	3.7	-0.6	3.1
State	0.9	*	0.9	0.4	-*	0.4
Transportation	4.4	0.6	5.1	1.0	-*	1.0
Treasury	43.6	2.0	45.5	11.7	0.7	12.3
ERDA	4.2	0.3	4.6	1.2	*	1.2
EPA	0.7	*	0.7	0.2	*	0.2
GSA	-0.2	0.2	-*	-0.1	-*	-0.1
NASA	3.5	-*	3.5	1.0	-*	0.9
VA	17.8	1.0	18.8	4.2	0.3	4.5
Civil Service Commission	12.[illegible]	0.9	13.3	1.6	-0.1	1.6
National Science Foundation	0.8	-*	0.7	0.2	-*	0.2
Railroad Retirement Board	3.3	-0.1	3.2	0.3	-*	0.3
Tennessee Valley Authority	5.1	5.0	10.1	*	....	*
Other agencies	2.8	0.8	3.5	1.1	*	1.1
Allowances:						
Energy tax equalization payments	5.8	-5.8	....	1.8	-1.8	....
Civilian agency pay raises	0.6	....	0.6	0.1	....	0.1
Contingencies	0.8	....	0.8	....	....	....
Undistributed offsetting receipts:						
OCS rents and royalties	-8.0	2.0	-6.0	-1.8	....	-1.8
Interest received by trust funds	-8.1	-0.3	-8.4	-0.7	-1.5	-2.1
Employer share, employee retirement	-3.9	-0.1	-4.1	-1.0	-*	-1.0
Total	383.8	7.5	391.4	88.8	-3.0	85.8

* Less than $50 million.

[1] Based on Path 1 economic assumptions.

STATEMENT OF HON. JAMES ABOUREZK, A U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA

Mr. Chairman, I appreciate this opportunity to submit testimony on the effects of environmental regulations on the small farmers of America.

As you know, I feel very strongly that the preservation of family-sized farms should be a high priority in our country. Smaller farms are consistent with a good quality of live and a concern for the land and water and air. It is my opinion that small farms are essential to providing high-quality food in abundant amounts for our country.

I am concerned about the possible impact of the Water Pollution Control Act on family farmers and ranchers. While I feel that these food producers support the idea of cleaning up America's water resources and putting a stop to pollution caused by certain agricultural practices, I question whether the Environmental Protection Agency will be able to communicate with farmers and ranchers unless some changes are made.

Nothing raises the ire of farmers and ranchers more than to be told that they have to comply with a governmental regulation or else. And, in general, I personally don't like the idea of government operating from the top down to ram a policy down the throats of citizens.

Testimony presented earlier at this hearing by officials of the University of Wisconsin has shown very clearly, I think, that if farmers themselves are involved in the decision-making process and in putting together a reasonable offensive to bring about healthier agricultural practices, the effort will be successful.

I really don't think it's too much to ask of any agency, including the Environmental Protection Agency, to communicate with farmers and ranchers in terms to which they can relate.

Frankly, I find the jargon that government specialists come up with to sometimes be ridiculous. Instead of communicating in human terms to other human beings, we hear the talk of computers, Ph.D. technologists and expert abbreviationists. Capitol Hill jargon, as well, is not very clear to people who do not regularly tread the marble paths of Washington, D.C.

I'm saying that if the Environmental Protection Agency or the 26 state environmental agencies now involved in carrying out the goals of the Water Pollution Control Act try to convince farmers that their "point sources or non point sources are raising the BOD content of Stone Creek .00018 parts per million higher than the stipulations of NPDES under PL 92-500" they won't have much luck.

And they won't win the hearts and minds of farmers and ranchers by threatening them with penalties for non-compliance.

I strongly feel that our water and land and air must be protected and restored. We must take decisive action to stop all serious forms of pollution, including that resulting from unwise agricultural practices. And I feel that the Environmental Protection Agency is, right now, very likely the most important agency in terms of the health and future of the American people.

Evidence is clear now that contaminated water can cause cancer and other diseases. Cancer is now recognized as an environmental disease, resulting from the contamination of our planet.

I don't argue with the purpose or goals of the Environmental Protection Agency or the Water Pollution Control Act. My concern is whether or not governmental agencies are prepared to communicate with farmers and ranchers, to seek their input and cooperation and to clearly explain, in human terms, what must be done.

There are two positive steps that I feel should be taken by Congress and/or by the appropriate federal and state agencies:

1. Farmers should be actively involved in helping carry out the Water Pollution Control Act. The Agricultural Stabilization and Conservation Service has a system of farmer-elected committeemen throughout the country. These grassroots farmers should be relied upon for advice and for getting information disseminated among farmers and ranchers.

The Soil Conservation Districts, and their elected supervisors, should also be included.

It would appear reasonable to assume that the farmer-elected committeemen and the soil conservation people would provide a sort of human barometer to measure the practical application of efforts to carry out the fight against pollution.

These grassroots people now have statutory access to technical help from the U.S. Forest Service, the Soil Conservation Service and land-grant college extension personnel.

2. The Agricultural Conservation Program now administered by the ASCS should be strengthened and revised to help carry out the improvements that must be made to reach the goals of the Water Pollution Control Act. Any other available cost-sharing or grant programs that could apply should likewise be updated.

In closing these remarks, I just want to emphasize that environmental efforts, directly involving grassroots farmers and ranchers, can be successful. I have great confidence in the commitment of food producers to the cause of resource conservation and environmental quality. I also know, however, that environmental efforts could backfire and create resentment and resistance if the program is carried out in the form of strong directives, penalties, confusing computer mumbo-jumbo and a general lack of citizen participation.

I look forward to working with you, Mr. Chairman, and the other members of the Small Business Committee in efforts to carry out the Congressional intent of the Water Pollution Control Act.

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF COLUMBIA

NATURAL RESOURCES DEFENSE COUNCIL, INC.,

Plaintiff,

v.

RUSSELL E. TRAIN, Administrator of the Environmental Protection Agency, *et al.*,

Defendants.

Civil Action
No. 1629-73

FILED
JUN 10 1975
JAMES F. DAVEY, Clerk

FINAL JUDGMENT

Upon consideration of the pleadings, memoranda, affidavits, the arguments of the parties and other materials in the record of this matter, the Court having determined that plaintiff's motion for summary judgment should be granted for the reasons stated in its March 24, 1975, memorandum opinion, it is by the Court,

Declared, Adjudged and Ordered that:

1. The exclusion of point sources in the agriculture, separate storm sewer, and silviculture categories from the permit requirements of the National Pollutant Discharge Elimination System ("NPDES") by the Administrator of the Environmental Protection Agency ("EPA") in 40 C.F.R. §§ 124.11(f), 124.11(h), 125.4(f) and 125.4(j) is not authorized by the Federal Water Pollution Control Act Amendments of 1972, 86 Stat. 816, 33 U.S.C. § 1251 *et seq*.

2. As soon as possible, but not later than five months from the date of this order, defendants Russell Train, Administrator of the EPA, and EPA shall publish proposed regulations extending the NPDES permit system to include all point sources in the concentrated animal feeding operation and separate storm sewer categories.

3. As soon as possible, but not later than eight months from the date of this order, defendants Russell Train, Administrator of the EPA, and EPA shall publish proposed regulations extending the NPDES permit system to include all point sources in the agriculture (other than concentrated animal feeding operations) and silviculture categories.

4. As soon as possible, but not later than nine months from the date of this order, defendants Russell Train, Administrator of the EPA, and EPA shall promulgate final regulations extending the NPDES permit system to include all point sources in the concentrated animal feeding operation and separate storm sewer categories.

5. As soon as possible, but not later than twelve months from the date of this order, defendants Russell Train, Administrator of the EPA, and EPA shall promulgate final regulations extending the NPDES permit system to include all point sources in the agriculture (other than concentrated animal feeding operations) and silviculture categories.

6. Within the relevant times specified in paragraphs 4 and 5 hereof and as more fully set out in their memorandum to the Court of April 29, 1975, defendants Russell Train, Administrator of the EPA, and EPA, in addition to identifying the sources to be regulated under the NPDES permit system in the agriculture, separate storm sewer, and silviculture categories, shall also (i) determine what information is required from operators of previously excluded point sources in these categories and promulgate permit application forms as necessary, and (ii) determine the approach and strategy to be followed in regulating previously excluded point sources in each of these categories and any appropriate subcategories, including determination of appropriate technologies or management procedures to reduce pollution from these categories.

7. Until defendants Russell Train and EPA have promulgated final regulations in accordance with paragraphs 4 and 5 hereof, 40 C.F.R. §§ 124.11(f), 124.11(h), 125.4(f) and 125.4(j) shall remain in full force and effect.

8. The Clerk of this Court shall enter final judgment for plaintiff, the court having determined that there is no just reason for delay in the entry of final judgment on this Order.

Thomas A. Flannery
UNITED STATES DISTRICT JUDGE

June 10, 1975
Date

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FILED
MAR 24 1975
JAMES F. DAVEY, CLERK

NATURAL RESOURCES DEFENSE COUNCIL, INC.,

Plaintiff,

v.

RUSSELL E. TRAIN and ENVIRONMENTAL PROTECTION AGENCY, et al.,

Defendants.

Civil Action No. 1629-73

ORDER

This matter is before the court on motions to dismiss and cross-motions for summary judgment. For the reasons stated in the accompanying Memorandum, it is by the court this 24 day of March, 1975,

ORDERED that the motion of plaintiff Natural Resources Defense Council, Inc. for summary judgment be, and hereby is, granted; and it is further

ORDERED that the motions of defendants Train and the Environmental Protection Agency and defendants-intervenors National Livestock Feeders Association, the State of Washington and the State of Colorado to dismiss be, and the same hereby are, denied; and it is further

ORDERED that the motions of defendants-intervenors National Forest Products Association and the Colorado River Water Conservation District for summary judgment be, and the same hereby are, denied; and it is further

ORDERED that plaintiff shall have to and including March 31, 1975 to file an appropriate proposed judgment.

UNITED STATES DISTRICT JUDGE

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

NATURAL RESOURCES DEFENSE COUNCIL, INC.,

Plaintiff,

v. — Civil Action No. 1629-73

RUSSELL TRAIN, Administrator of the Environmental Protection Agency, et al.,

Defendants.

FILED
MAR 24 1975
JAMES F. DAVEY, CLERK

MEMORANDUM

This matter is before the court on motions to dismiss and for summary judgment. Federal defendants Russell Train, Administrator of the Environmental Protection Agency (EPA), and the EPA, and defendants-intervenors National Livestock Feeders Association, the State of Washington, Department of Natural Resources, and the State of Colorado, Water Quality Control Commission, have filed motions to dismiss for failure to state a claim upon which relief can be granted. The motions by all but the State of Colorado have been supported by material outside the pleadings and will be considered motions for summary judgment. Fed. R. Civ. P. 12(b). Plaintiff Natural Resources Defense Council (NRDC) and defendants-intervenors National Forest Products Association and the Colorado River Water Conservation District have filed motions for summary judgment denominated as such. Defendant-intervenor National Milk Producers Federation opposes plaintiff's motion for summary judgment but has filed no motion. 1/

1/ The State of Colorado, Water Quality Control Commission, and the Colorado River Water Conservation District were granted leave to intervene on the condition that they take no active part in the litigation until the present motions had been determined. However, the court ordered their motions to dismiss and for summary judgment filed and has considered their arguments.

This case involves important questions of statutory interpretation of sections of the Federal Water Pollution Control Act Amendments of 1972 (FWPCA), Pub. L. No. 92-500, 86 Stat. 816, 33 U.S.C. §§ 1251 et seq. (Supp. III, 1973). This lengthy and complicated Act has the stated objective of restoring and maintaining the integrity of the nation's waters. See FWPCA § 101 (a), 33 U.S.C. §1251(a) (Supp. III, 1973). In order to accomplish this goal the discharge of pollutants into the navigable waters of the United States is to be eliminated by 1985. In the interim, a number of mechanisms and deadlines are established for regulating discharges. Section 301(a) of the Act provides that, with only a few exceptions, any discharge of pollutants by any person is unlawful. Id. § 1311(a). One of the exceptions is for discharges made under a permit issued by the Administrator of EPA pursuant to the National Pollutant Discharge Elimination System (NPDES) established by section 402 of the Act. Id. § 1342. That section provides in pertinent part:

> Sec. 402.(a)(1) ...the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 301 (a)...."

See id. § 1342(a)(1). Under such a permit the discharge must meet the effluent standards established by the Act.

The term discharge of pollutants is defined in section 502 (12) of the Act to mean any addition of any pollutant to the navigable waters from any point source. See id. § 1362(12). Thus, all nonpoint sources are excluded from the effluent limitations and are subject only to analysis and study under section 304(e). See id. § 1314(e). The term point source is defined as follows:

> Sec. 502. ... (14) The term 'point source' means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

See id. § 1362(14). In 1973 the Administrator of EPA promulgated regulations which exempted certain sources from the NPDES permit requirements. These included discharges from storm sewers composed entirely of storm runoff uncontaminated by industrial or commercial activity; from relatively small animal confinement facilities; from silvicultural activities; and irrigation return flow from point sources where the flow is from less than 3000 acres. See 40 C.F.R. §§ 125.4(f), (j) (1974). 2/ These exemptions were only from the requirement to apply for a permit. They did not waive the applicable effluent limitations or other standards established under the Act. 38 Fed. Reg. 18001-02 (1973). Additionally, the exemption does not extend to discharges from activities which the Administrator of EPA or the director of a state water pollution agency identifies as a significant contributor of pollution. 40 C.F.R. §§ 124.11(h)(5), 125.4(j)(5) (1974).

Plaintiff NRDC challenges these regulations and asks for a declaratory judgment that the Administrator's action excluding these categories of sources from the NPDES permit program is unlawful under both FWPCA and section 13 of the Rivers and Harbors

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2/ The regulations also allow a state administering its own permit program for discharges pursuant to section 402 (b) to exclude the same sources from its individual permit programs. 40 C.F.R. 124.11(f),(h) (1974).

Act of 1899, 30 Stat. 1152, 33 U.S.C. § 407 (1970). 3/ NRDC does not press for injunctive relief at this time.

Defendants Train and EPA contend that the exempted categories of sources are ones which fall within the definition of point source but which are ill-suited for inclusion in a permit program. Pollutants, EPA maintains, are best eliminated from storm sewer, agricultural and silvicultural discharges by "process changes" which prevent pollutants from entering rainwater runoff rather than by treating the discharge by the "end-of-pipe" method. EPA argues that the Act and its legislative history reflect congressional recognition that such runoff is to be dealt with in a nonpoint method. Moreover, it is EPA's contention that the tremendous number of sources within the exempted categories would make the permit program unworkable. Faced with this problem the Administrator harmonized the conflicting demands for regulation of point sources by exercising his discretion under the permit program to establish the challenged exemptions.

Defendants-intervenors support the arguments set forth by EPA. Some of them argue further that the exempted sources were not even intended to be point sources under the Act and therefore are exempt from the permit requirements. 4/ However, the court concludes

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3/ Section 13 is sometimes referred to as the Refuse Act of 1899. United States v. Pennsylvania Industrial Chemical Corp., 411 U.S. 655, 658 n. 5 (1973).

4/ The State of Washington and the National Forest Products Association contend that silvicultural activities were intended to be nonpoint sources. Similarly the State of Colorado and the Colorado River Water Conservation District argue that Congress never intended to treat agricultural activities involving irrigation runoff and return flow as point source pollution.

that the power to define point and nonpoint sources is vested with EPA and should be reviewed by the court only after opportunity for full agency review and examination. In the court's view the only issue to be determined is whether FWPCA allows the Administrator the latitude to exempt entire classes of point sources from the NPDES permit requirements. The court holds that it does not.

The judicial decisions interpreting FWPCA and the Rivers and Harbors Act and the legislative history of FWPCA support plaintiff's contentions that all discharges by point sources were intended to be covered by a permit. Decisions of the Supreme Court of the United States and the Court of Appeals for this Circuit, while not determinative of the issue, present strong support for a finding that the Administrator erred in exempting categories of point sources from the permit requirements.

The most important of the judicial precedents is the Supreme Court's decision in United States v. Pennsylvania Industrial Chemical Corp. (PICCO), 411 U.S. 655 (1973), which involved section 13 of the Rivers and Harbors Act of 1899. The primary issue before the Court was whether section 13 was an absolute prohibition on discharging without a permit, even though no formal permit program had been established. The Court held that the section was such a prohibition, even though it was impossible for dischargers to obtain permits.

A formal permit program under section 13 was subsequently established and that permit program was later incorporated in the new permit program authorized by section 402 of FWPCA. Section 402 prohibits further issuance of permits under section 13 of the

Rivers and Harbors Act and designates the Administrator of EPA as the exclusive authority to permit discharges of pollutants into navigable waters. PICCO, supra at 657 n. 2, 658 n. 7, 659 n. 9. Section 402 specifically provides as follows:

> Sec. 402. (a)...(4) All permits for discharges into the navigable waters issued pursuant to section 13 of the Act of March 3, 1899, shall be deemed to be permits issued under this title, and permits issued under this title shall be deemed to be permits issued under section 13 of the Act of March 3, 1899, and shall continue in force and effect for their term unless revoked, modified, or suspended in accordance with the provisions of this Act.

Therefore, while PICCO dealt with a prior law, it is equally applicable to the statute now at issue. Indeed the Supreme Court stated that the later water quality legislation expressly complements section 13 of the 1899 Act:

> "Section 13, although authorizing the Secretary of the Army to permit certain water deposits, contains no criteria to be followed by the Secretary in issuing such permits. The water quality legislation, on the other hand, calls for the setting of standards, and once such standards are established, federal permit authority, such as that vested in the Secretary of the Army by the second proviso to § 13, is specifically limited to that extent--i.e., a permit could not be granted by the Secretary unless the discharge material met the applicable standards. Water Quality Improvement Act of 1970, § 103, 84 Stat. 107. In essence, therefore, the Water Quality Acts placed a limitation on the Secretary's permit authority without undermining the general prohibitions of § 13.

PICCO, supra at 668-69.

The Supreme Court's ruling in PICCO is especially pertinent because it reversed the decision of the Third Circuit on which EPA relied in preparing to promulgate the exemption regulations. See United States v. Pennsylvania Industrial Chemical Corp., 461 F.2d 468 (3d Cir. 1972). The circuit court found that the Rivers and Harbors Act provision banning discharges without a permit was not intended to be effective unless a permit program was established. By analogy, EPA's staff reasoned that if EPA refused to accept permit applications from exempted sources then those sources did not need to comply with the permit requirements and could not be prosecuted for discharging without a permit. 5/ This reasoning effectively was undercut by the Supreme Court's ruling that the statute clearly prohibited discharges without a permit, regardless of whether it was possible to obtain one. The court finds it difficult to believe that the implementation of the permit programs alters the import of *PICCO.* 6/

This view is supported by the recent decision of the Court of Appeals for the District of Columbia Circuit in *Natural Resources Defense Council v. Train*, No. 74-1433 (Dec. 5, 1974). In discussing the permit system established by section 402 the court stated:

> "After dates set forth in that section, a person must obtain a permit and comply with its terms in order to discharge any pollutant."

5/ *See* Memorandum from Robert V. Zener, Associate General Counsel, *reprinted in* Hearings on Control of Pollution From Animal Feedlots Before a Subcomm. of the House Comm. on Government Operations, 93d Cong., 1st Sess. 666-67 (1973). The conclusions reached in that memorandum were criticized in detail by the Subcommittee Staff. *See* Subcommittee Staff Memorandum of March 11, 1974, *reprinted in* House Comm. on Government Operations, Control of Pollution From Animal Feedlots and Reuse of Animal Wastes, H.R. Rep. No. 93-1012, 93d Cong., 2d Sess. 55-60 (1974) (hereinafter cited as Feedlot Report).

6/ The House Committee on Government Operations reached a similar conclusion. The Committee's Conservation and Natural Resources Subcommittee had been monitoring EPA's administration of the 1972 amendments in general and the permit program in particular. The Subcommittee objected to the proposed EPA regulation requiring permits only for feedlots of a certain size. The regulation was promulgated notwithstanding those objections. The committee report states:

[Footnote 6/continued on next page]

The accompanying footnote stated in part:

> "As a result, compliance with the permit program is a prerequisite to lawful discharge of pollutants...."

Slip op. at 3-4. And at another point the court noted:

> "After December 31, 1974, however, persons discharging pollutants must have obtained a permit in order to have a legal defense against prosecution."

Slip op. at 29. Admittedly, these cases did not deal with the specific issue before the court. Therefore, although their language is strong authority for the proposition that EPA may not exempt entire categories of sources from the permit requirement, it is not dispositive. 7/ The court therefore turns to the general considerations relevant to interpreting statutory provisions.

[footnote 6/continued]

> In any event, there is no legal basis for EPA's administrative exclusion of any point source from the NPDES permit program under the Federal Water Pollution Control Act. The law requires that all point sources be subject to the permit program."

Feedlot Report, supra note 5, at 5.

7/ Another case which lends support to NRDC's interpretation of the Act is Colorado Public Interest Research Group, Inc. v. Train, 507 F.2d 743 (10th Cir. 1974), in which the court found that the EPA did not have authority to except certain types of radioactive material from regulation since the language of the statute clearly encompassed all radioactive materials. Also relevant is Scenic Hudson Preservation Conference v. Callaway, 370 F. Supp. 162 (S.D.N.Y. 1973), aff'd, 499 F.2d 127 (2d Cir. 1974) (per curiam), involving section 404, another of the specific exceptions to section 301 (a). In that case the court agreed with the plaintiffs that a permit was required in all cases involving the discharge of dredged or fill material into navigable waters. Id. at 171. See also People of the State of California v. E.P.A., No. 73-2466 (9th Cir., Feb. 13, 1975) (federal agencies not exempt from state permit programs).

"In construing statutes, courts must first look to the language of the legislation; if its language 'admits of no more than one meaning the duty of interpretation does not arise....'" United Shoe Workers of America, AFL-CIO v. Bedell, 506 F.2d 174, 178 (D.C. Cir. 1974) (footnotes omitted). In the present case the plain language of section 301 provides that "[e]xcept as in compliance with this section and section...402... of this Act, the discharge of any pollutant by any person shall be unlawful." Section 402 then provides that "the Administrator may...issue a permit for the discharge of any pollutant or combination of pollutants, not withstanding section 301 (a)...." The government supplies a strained interpretation of this language, arguing that the word "may" indicates discretion and thus means that the Administrator may grant or deny a permit, or may exempt whole categories of point sources from the permit program. This result requires more imagination than the court is willing to exercise.

Indeed, the court has examined carefully all of section 402 and finds no support for defendants' contentions. While Congress may have considered manufacturing facilities and waste treatment works to be the primary targets of the Act, it gave no indication that it approved exemptions for other categories of point sources. Clearly it would have done this, just as it did for all nonpoint sources for which only identification and evaluation are required. The Act does seem to indicate that at least some agricultural and silvicultural sources are apparently of a nonpoint nature and the Administrator need only identify and develop methods to control them. FWPCA § 208(b)(2)(F), 33 U.S.C. § 1282(b)(2)(F)

(Supp. III, 1973). 8/ However, there is no evidence from the language of the statute to support the categorical exemptions of point sources granted by the Administrator.

The court, therefore, believes that it is unnecessary to look to the legislative history of the Act for guidance. Nonetheless, if the background of the legislation is examined, it provides additional support for plaintiff's position.

The report accompanying the House Committee Bill, H.R. 11896, states the intent of Congress in clear and straightforward language:

> "Subsection (a) of section 301 establishes that any discharge of a pollutant not in compliance with sections 301, 302, 306, 307, 318, 402 and 404 is unlawful. Any discharge of a pollutant without a permit issued by the Administrator under section 318, or by the Administrator or the State under section 402 or by the Secretary of the Army under section 404 is unlawful."

H.R. Rep. No. 92-911, 92d Cong., 2d Sess. 100 (1972), reprinted in Environmental Policy Division of the Congressional Research Service, A Legislative History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess., Vol. I, at 147 (Senate Public Works Comm. Print 1973) (hereinafter cited as Legislative History). Sections 301(a) and 402(a)(1) of that bill are essentially identical to the Act as passed. 9/

8/ Some of the intervenors argue that section 208 indicates a congressional intent to exclude all agricultural and silvicultural activities from the permit program. As noted above the court finds it unnecessary to determine this issue.

9/ Section 402(a)(1) of H.R. 11896 contained a provision dealing with thermal discharges that is not in the Act.

The provisions of the Senate bill, S. 2770, while not identical to the Act, are substantially similar to it. The report accompanying S. 2770 describes section 301 as clearly establishing that the discharge of pollutants is unlawful. It continues:

> "But the Committee recognizes the impracticality of any effort to halt all pollution immediately. Therefore, this section provides an exception if the discharge meets the requirements of this section, Section 402, and others listed in the bill."

S. Rep. No. 92-414, 92d Cong., 1st Sess. 42-43 (1971), reprinted in Legislative History, supra, Vol. II, at 1460. This report indicates that the discharge must meet the effluent limitations of section 301, and must be pursuant to a permit issued under the Act.

This conclusion is supported by numerous other passages in the legislative history including a letter from William Ruckelshaus, then Administrator of EPA, to the Office of Management and Budget recommending presidential approval of S. 2770. In summarizing the provisions of the bill, Mr. Ruckelshaus stated:

> "No discharge of any pollutant will be permitted, except as authorized by a permit issued under the new Act. No Refuse Act permit may be issued after enactment of the legislation. However, Refuse Act permits heretofore issued shall continue in force and effect as though issued under authority of this enrolled bill."

Legislative History, supra, Vol. I, at 143. In addition, Congressman Jones of Alabama inserted into the record a statement highlighting the important aspects of the legislation. Paragraph 24 of that statement notes that the Act

> "[d]eclares to be unlawful the discharge of any pollutant by any person except as specifically authorized in the bill. The bill establishes a Federal-State discharge permit program. All permits issued under this program shall be consistent with the specific requirements of the bill, including effluent limitations, national standards of performance, toxic and pretreatment standards, and ocean discharge."

118 Cong. Rec. 10208 (1972) (debate on H.R. 11896), reprinted in Legislative History, supra, Vol. I, at 362.

To allow the exemptions made by the Administrator is to diminish the effect of the Act. Section 301 contemplates that discharges from most point sources will be abated by application of the best available technology economically achievable by July 1, 1983. FWPCA § 301(b)(2)(A), 33 U.S.C. § 1311(b)(2)(A) (Supp. III, 1973). This is to be effectuated by means of a permit program which enforces progressively stricter limitations on permit holders. If the limitations are not met, the permit may be revoked and discharging must cease. If a point source is exempted from the permit requirement, the Administrator then has no effective control over the polluter.

Federal defendants argue that although point sources in the exempted categories need not obtain permits they are still required to meet effluent guidelines. See 38 Fed. Reg. 18001-18002 (1973). Plaintiff points out, however, that "even at this late date there are no effluent guidelines applicable to the categories of dischargers excluded from the NPDES program." NRDC also notes that the question of whether certain of EPA's effluent guidelines are enforceable independently or their application and implementation in individual NPDES permits is now involved in more than 80 lawsuits brought by industrial discharges. Plaintiff summarized the matter cogently:

> "Finally--and this is the most fundamental point--even if EPA were to develop effluent guidelines for the excluded categories and even if the agency's position that such guidelines can operate independently as performance

> standards is ultimately vindicated, the permit program would still be needed to ensure the effective implementation and enforcement of those guidelines. Even with effluent guidelines, the permit process is indispensable because (1) the permit application requirement identifies dischargers for EPA and reveals what they are discharging, basic information which is otherwise lacking, (2) the permit puts the discharger on full notice of its cleanup responsibilities so there is no question as to inadequate notice or confusion regarding the Act's requirements, (3) the permit contains an enforceable schedule of compliance with mileposts to gauge the discharger's success in meeting the Act's abatement deadlines, (4) EPA's compliance monitoring program is geared to the permit program (for example, permit holders are required to monitor their own discharges and make periodic reports to EPA and the states), and (5) the existence of a permit greatly simplifies the enforcement of the Act's requirements by eliminating many issues which might otherwise arise in an enforcement proceeding."

Plaintiff's Supplemental Memorandum In Support of Motion for Summary Judgment, at 11-12 (filed Nov. 14, 1974) (footnotes omitted). It seems evident to the court that such exemptions from the permit requirement, in light of the purpose and design of the Act, thwart its enforcement mechanisms and are contrary to the intent of Congress.

In spite of the history and logic of the Act, defendants contend that the exemptions are absolutely necessary in order for EPA to carry out its duties. The court is not insensitive to EPA's contention that enforcement of the Act according to NRDC's interpretation would present insoluble administrative problems and make the Act itself unworkable. The court is well aware that EPA has been assigned expansive tasks with often limited funding and the court has no desire to increase EPA's burdens to the detriment of its programs. Certainly, in some cases the courts have allowed agencies to broadly interpret the law and to develop procedures for administering it in a logical and manageable manner. *See, e.g., Weinberger v. Bentex Pharmaceuticals, Inc.*, 412 U.S. 645 (1973); *Permian Basin Area Rate Cases*, 390 U.S. 747, 780 (1968). Defendants Train and EPA rely strongly on *Weinberger v. Bentex Pharmaceuticals, Inc., supra*, in which the court, in upholding an agency's interpretation of the Federal Food, Drug and Cosmetic Act, ruled that in the absence of compelling evidence of congressional intent it would not "prohibit administrative action imperative for the achievement of an agency's ultimate purpose." 412 U.S. at 653, *quoting Permian Basin Area Rate Cases, supra* at 780. The court cannot take issue with such a reasonable determination; but in the case at bar the compelling congressional intent is clearly present. It is expressed in the statute itself and in the legislative history, both of which demonstrate that the discharge of pollutants without a permit is unlawful. Therefore, the present case is unlike *Bentex* and is more akin to *Blair v. Freeman*, 370 F.2d 229 (D.C. Cir. 1966), in which the court examined the exceedingly complex field of milk marketing regulation and concluded that a Milk Marketing Order directly affecting a billion dollar industry and thousands of milk products was an invalid departure from statutory scheme established by Congress. 370 F.2d at 232.

Concededly, the Supreme Court has counseled lower courts to show "great deference to the interpretation given to the statute by the officers or agency charged with its administration." *NRDC v. Train, supra*, slip op. at 26, *quoting Udall v. Tallman*, 380 U.S. 1, 16 (1965). Unlike the situation in *NRDC v. Train*, however, the statutory framework now at issue appears too tightly drawn to allow the interpretation made by EPA. The court in Scenic Hudson Preservation Conference v. Callaway, 370 F. Supp. 162 (S.D. N.Y. 1973), aff'd, 499 F.2d 127 (2d Cir. 1974) (per curiam), was faced with a similar situation. There Consolidated Edison argued that it was not required to obtain a permit under FWPCA section 404 for a hydroelectric plant since application of the section to hydroelectric projects would impair the authority exercised over them by the Federal Power Commission. The court found "that Congress would not design an Act which on its face is all-inclusive, but for specifically enumerated exceptions, and yet intend to establish an unmentioned exception of the scale suggested here. Without any indication that Con-Ed's reading of the Congressional will is accurate, the carving out of so major an exception would be improper. If this was Congress' intention and the omission is mere oversight, the remedy rests in Congress' hands...." 370 F. Supp. at 170. The court finds this resolution equally appropriate in the present context.

Furthermore, the court is not convinced that the permit program would be unmanageable without the exemptions granted by the Administrator since there do appear to be alternatives available to EPA for reducing the permit workload. One such alternative would be to refine and elaborate on terms such as "concentrated animal feeding operation." The very nature of this term requires that agency discretion be exercised to determine what is encompassed within its scope. Moreover, it appears that

Congress intended for the agency to determine, at least in the agricultural and silvicultural areas, which activities constitute point and nonpoint sources. Senator Muskie, one of the primary sponsors of the Senate bill, indicated during debate that it would be EPA's obligation to clarify the terms point and nonpoint source. An exchange with Senator Dole is informative:

> "Mr. DOLE. Another question of real concern to many farmers, stockmen and others in agriculture involves the terms 'point source' and 'nonpoint source.'
>
> * * *
>
> My question is: Simply, to what sources of guidance are we to look for further clarification of the terms 'point source' and 'nonpoint source'--especially as related to agriculture?
>
> Mr. MUSKIE. Guidance with respect to the identification of 'point source' and nonpoint source,' especially as related to agriculture, will be provided in regulations and guidelines of the Administrator...."

117 Cong. Rec. 38816 (1971), reprinted in Legislative History, supra at 1298-99. Plaintiff argues that the Administrator has failed to meet this obligation to draw the line by regulation or otherwise between point and nonpoint sources in the areas exempted by the challenged regulations. The court agrees that if EPA had carried out its duties as directed, carefully distinguishing point and nonpoint sources and employing techniques such as those already used for mining activities, the scope of and burdens presented by the permit program would be considerably less than projected by EPA. 10/

10/ This conclusion is supported by the report of the House Committee on Government Operations which concluded that EPA had grossly exaggerated the administrative problem and misled the public and the court about its administrative problems regarding feedlots. The Committee stated:

> "In raising the management problem, EPA has clouded the pollution question by trying to define the choice as being either a permit system for agricultural point sources which covers every 'farm with one animal,' or the minisystem adopted by EPA last July which excludes many polluting feedlots with a large number of animals. The first borders on the ridiculous, and the second is based on expediency."

Feedlot Report, supra note 5, at 27.

NRDC does not contend that every farm ditch, water bar, or culvert on a logging road is properly meant to be a point source under the Act. Moreover, NRDC points out that, while all sources which are eventually defined as point sources should be regulated under an appropriate permit program, the Administrator would have wide latitude to rank categories and sub-categories of point sources of different importance and treat them differently within a permit program. He would also have substantial discretion to use administrative devices, such as area permits, to make EPA's burden manageable. Admittedly, some sources, such as irrigation return flows and storm sewers, might pose special difficulties; nevertheless, such difficulties must not stand in the way of Congress' mandate that a comprehensive permit program covering all point sources be established.

In light of the foregoing, the court holds that the Administrator cannot lawfully exempt point sources discharging pollutants from regulation under NPDES. It appearing that no genuine issue of material fact exists, the court will therefore grant plaintiff's motion for summary judgment and will deny the motions to dismiss or for summary judgment filed by defendants and defendants-intervenors. A judgment will be entered after an opportunity for comment on its form by the parties. An appropriate Order accompanies this Memorandum.

UNITED STATES DISTRICT JUDGE

March 24, 1975
Date

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FILED
MAR 24 1975
JAMES F. DAVEY, CLERK

NATURAL RESOURCES DEFENSE COUNCIL, INC.,

Plaintiff,

v.

RUSSELL E. TRAIN and ENVIRONMENTAL PROTECTION AGENCY, et al.,

Defendants.

Civil Action No. 1629-73

AMENDED ORDER

It is by the court this 20th day of March, 1975,

ORDERED that the Order of this court of February 20, 1975 on the issue of intervention by the State of Colorado and the Colorado River Water Conservation District be, and the same hereby is, amended to add the following language:

ORDERED that the motion of the Colorado River Water Conservation District to intervene as a party defendant in the present action be, and hereby is granted; and it is further

ORDERED that the motion to dismiss submitted by the State of Colorado, and the motion for summary judgment submitted by the Colorado Water Conservation District be filed by the Clerk of the Court.

Thomas A. Flannery
UNITED STATES DISTRICT JUDGE

[From the Federal Register, Thursday, Nov. 20, 1975]

PART IV—ENVIRONMENTAL PROTECTION AGENCY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

CONCENTRATED ANIMAL FEEDING OPERATIONS

On December 22, 1972, regulations were promulgated and published in the Federal Register (37 FR 28290) establishing a new Part 124, Guidelines for State Program Elements Necessary for Participation in the National Pollutant Discharge Elimination System (NPDES), the national water discharge permit program. Comments received in response to these regulations and to proposed NPDES application forms, proposed in the Federal Register on December 5, 1972, (37 FR 25898) indicated a need to consider the desirability of attempting to extend the permit system to all point sources conceivably covered by the broad definitional framework established by the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq (FWPCA). EPA's intent to consider (1) further comments with respect to the NPDES application form for agricultural dischargers, Short Form B, and (2) exclusions from the permit system, particularly for agricultural and silvicultural sources, was noticed in the Federal Register on December 29, 1972 (37 FR 28765).

On May 3, 1973, EPA proposed a revised Short Form B for agricultural dischargers (38 FR 10960) and proposed classes and categories of silvicultural and agricultural activities which would not be subject to NPDES permit requirements.

On May 22, 1973, regulations establishing policies and procedures for issuance of NPDES permits by the Federal government were promulgated and published (33 FR 13528) at Part 125. In the May 22 publication, § 125.4, entitled Exclusions, provided that NPDES permits were not required for discharges from separate storm sewers composed entirely of storm runoff uncontaminated by industrial or commercial activity.

Subsequently, on July 5, 1973, after receiving information, statistics, and advice from other Federal agencies, State officials, and agricultural and environmental groups in response to the May 3, 1973, proposal, EPA issued notice of the availability of the final agricultural application Short Form B and published an amendment to § 125.4 (38 FR 18000). This amendment provided for an expansion of the exclusions in that section, eliminating categories of small concentrated animal feeding operations and certain agricultural and silvicultural activities from the permit requirement. On that date EPA also amended Part 124 by adding a new § 124.11, Exclusions. This section authorized the States to make the same exclusions as provided for in the amended Part 125 regulations. These exclusions did not operate, however, to exempt point sources within the excluded categories from compliance with applicable effluent limitations or other standards established under the FWPCA (38 FR 18001–02). In addition, the EPA Regional Administrator or the Director of a State water pollution control agency could override the exclusions by identifying individual sources as significant contributors of pollution. Once so identified, significant contributors of pollution were required to apply for and comply with NEPDS permits. 40 CFR 124.11(h)(5), 125.4(h)(5) (1975).

In promulgating the July 5 regulations, EPA stated its belief that while some point sources within the excluded categories may be significant contributors of pollution which should be regulated consistent with the purposes of the FWPCA, it would be administratively difficult if not impossible, given Federal and State resource levels, to issue individual permits to all such point sources. In addition, the Agency stated that regulation through the use of site-specific NPDES permits was not appropriate for most of the small sources covered by the exemptions. Essentially, these regulations providing for exemptions were based upon EPA's view (a view which it continues to maintain is correct) that most sources within the exempted categories present runoff-related problems not susceptible to the conventional NPDES permit program, including effluent limitations. EPA's position was and continues to be that most rainfall run-off is more properly regulated under section 208 of the FWPCA, whether or not the rainfall happens to collect before flowing into navigable waters. Agricultural and silvicultural runoff, as well as runoff from city streets, frequently flows into ditches or is collected in pipes before discharging to a stream. EPA contends that most of these sources are nonpoint in nature and should not be covered by the NPDES permit program.

In this way exercise of limited administrative discretion in excluding these basically nonpoint sources from the permit program is the best means for achieving the Congressional intent consistent with the language of the FWPCA. Even if these runoff sources were considered to be point sources, the FWPCA does not unambiguously require that all point sources obtain an NPDES permit. Section 301 states that the discharge by any person from a point source is unlawful "except as in compliance with" section 402. Section 402 states that "the Administrator may * * * issue a permit for the discharge of any pollutant [from a point source.]" This language requires every point source discharger to comply with the permit program (including any necessary administrative exclusions) established by the administrator under section 402; but this language does not require the Administrator to establish a program under which permits will be issued to every point source, including point sources which collect runoff pollution.

The Natural Resources Defense Council (NRDC) challenged this exercise of the Administrator's discretion in a lawsuit filed in the Federal District Court for the District of Columbia. The District Court ruled in favor of NRDC ["NRDC v. Train", 396 F. Supp. 1393, 7 ERC 1881 (D.D.C. 1975)] and on June 10, 1975, issued a final order requiring EPA to propose and promulgate regulations "extending the NPDES permit system to include all point sources" in the concentrated animal feeding operation, separate storm sewer, agricultural and silvicultural categories. Under the terms of the order EPA must propose regulations relating to storm sewers and concentrated animal feeding operations by November 10, 1975, and promulgate such regulations by March 10, 1976. Similarly, regulations extending the permit system to point source discharges in the agriculture and silviculture categories must be proposed by February 10, 1976 and promulgated by June 10, 1976.

As part of the effort to carry out the requirements of the court order EPA solicited and received information, statistics and advice from other Federal agencies, State and local officials, trade associations, agricultural and environmental groups and interested members of the public. Six public meetings were held in Washington, Boston, Chicago, Omaha and Dallas to consider the storm sewer and concentrated animal feeding operation categories. At each of these meetings, significant opposition was voiced to the development of an expanded permit system within the NPDES program as it has been administered to date. Such opposition came from persons representing both potential permittees and permit issuing agencies.

In general, these individuals and organizations stated that expansion of the NPDES program to the previously excluded categories of point sources must not be carried out so as to require the issuance of individual permits to all affected dischargers. Many commenters pointed out that such a program would require a massive commitment of resources, both by the dischargers and by the issuing agencies, which would not be commensurate with the modest pollution reduction gained from the program. They also emphasized that numerical effluent limitations are inappropriate for pollution abatement from most of these point sources, and they urged EPA to consider alternative pollution control processes and methods as a basis for any proposed permit system. Finally, several commenters strongly recommended that EPA reconsider the explicit legislative history of the FWPCA concerning agricultural nonpoint sources and adapt the proposed regulations to the language from that history.

Taking these comments, as well as the legislative history, the statutory language, the "NRDC v. Train" decision, and the technical data available on feedlots into consideration, the Agency has explored several regulatory approaches for developing a permit program for concentrated animal feeding operations. The programs investigated included a comprehensive, all encompassing individual permit program, a program of permit by regulation, and a program of permit by registration. In each of these programs, the costs, the benefits, the complexity of administration, and the economic impact have been weighed, as well as the effectiveness of the program in abating pollution from animal feeding operations. In proposing these regulations today the Agency has selected a regulatory approach which EPA considers the most appropriate and which has the most support in the legislative history.

EPA realizes that because of multiple variables of numbers and types of animals confined, and local geographical, topological and meteorological data, ideally most animal feeding operations should be considered individually to determine whether or not each such operation is concentrated and therefore requires a permit. However, given present State and Federal resource levels, such site-specific determinations of animal feeding operations would be impractical, if not impossible. In addition, such site-specific determinations would create considerable uncertainty in the agricultural community as to who should apply for a permit.

Thus, EPA is following the express guidance of the Court in "NRDC v. Train" and the legislative history of the FWPCA ("A Legislative History of the Water Pollution Control Act Amendments of 1972", January 1972, pp. 1298–99) in proposing these regulations to minimize site-specific determinations.

The proposed regulations delineate the scope of the NPDES permit program by carefully defining the term "concentrated animal feeding operation." Any facility falling within the definition of "concentrated animal feeding operation" is a point source pursuant to these regulations and must apply for and obtain an NPDES permit.

This proposed regulation is based on the "NRDC v. Train" decision in which the court provided guidance for this approach. The court specifically directed the Agency "to refine and elaborate on terms such as 'concentrated animal feeding operation.' The very nature of this term requires that Agency discretion be exercised to determine what is encompassed within its scope." 396 F. Supp. 1393, 1401 (1975). This discussion recognizes that section 502(14) of the FWPCA includes "concentrated animal feeding operation" within the definition of point source, but does not define the term "concentrated animal feeding operation." When such a term is left undefined, the Administrator within his discretion may define it based on all facts and information available to him.

In the Agency's effort to reach a sound definition of concentrated animal feeding operation it became evident that numerous factors are relevant to whether a facility in which animals are stabled and fed should fall within the scope of that term: (1) The proximity of the feeding operation to a navigable water; (2) the numbers and types of animals confined in the operation; (3) the means of conveyance of the animal wastes and process waste waters into the navigable waters; (4) the slope of the land on which the operation is located; (5) the amount of vegetation sustained within the confines of the feeding operation; (6) the amount of rainfall in the geographic area in which the operation is located; (7) the time period during which the animals are stabled or confined and fed; and (8) other similar factors relative to the likelihood or frequency of discharge of pollutants into navigable waters.

The most precise regulatory system might be based on a formula in which each of the above factors was assigned particular weight. On a case-by-case basis, the characteristics of each animal feeding operation would be computed into that formula for a determination whether the facility was "concentrated" and therefore subject to the NPDES permit program. At this time, however, the data is not available to the Agency with which such a precise formula can be constructed. Even if such a formula could be constructed it would be so complex that permitting authorities, whether State or regional, as well as feedlot operators would find it difficult to apply.

Therefore, the Administrator has determined that the need for a basic national standard and a practical administrative approach calls for the establishment of definite criteria for the term "concentrated animal feeding operation." In setting the criteria, using the discretion recognized by the court in "NRDC v. Train," the Administrator has relied greatly upon the intent of Congress with respect to agricultural sources. In discussing the intent of Congress with regard to the concept of "point source" as it related to concentrated animal feeding operations, Senator Edmund Muskie, Chairman of the then Air and Water Pollution Subcommittee of the Senate Committee on Public Works, set forth the following guidance:

First. If a man-made drainage ditch, flushing-system or other such device is involved and if measurable waste results and is discharged into water, it is considered a 'point source.'

Second. Natural runoff from confined livestock and poultry operations are not considered a 'point source' unless the following concentrations of animals are exceeded: 1,000 beef cattle; 700 dairy cows; 290,000 broiler chickens; 180,000 laying hens; 55,000 turkeys; 4,500 slaughter hogs; 35,000 feeder pigs; 12,000 sheep or lambs; 145,000 ducks.

Third. Any feedlot operation which results in the direct discharge of wastes into a stream which traverses the feedlot are considered point sources without regard to the number of animals involved. (Leg. Hist. pp. 1298–1299.)

Thus, the proposed regulations define "concentrated animal feeding operation" in terms of three criteria: the number of animals confined in the operation (obviously a determinant of the amount of pollutants produced); the location of the operation relative to a water body; or the presence of a man-made drainage ditch, flushing system, or other man-made device which discharges wastes directly into a stream. If any one of these three criteria apply to a particular animal feeding operation, the facility will be required to apply for and obtain a permit.

A permit, however, is not required even for those feeding operations which have more than the number of animals specified if the only time a discharge of pollutants into navigable waters occurs is during a 25 year, 24 hour rainfall event.

There is, in addition, one further provision in the proposed regulations which may be invoked by the permitting authority to require the owner or operator of an animal feeding operation to obtain a permit. Even if the feeding operation meets none of the three generally-applicable criteria for defining a "concentrated animal feeding operation" the facility may have to apply for a permit upon a specific determination that it is a concentrated animal feeding operation.

This provision is incorporated into the proposed regulations to assure that where one or more of the many factors discussed above, but not specified as generally-applicable in the regulations, is significant, a permit may be required regardless of the numbers of annimals, the distance from stream or the lack of a man-made ditch or flushing system. In other words, this provision is a mechanism for a case-by-case determination that particular animal feeding operations are concentrated and therefore point sources subject to regulation.

These regulations are presented in proposed form so that further information, data, and discussion may be received before final adoption. Although the Administrator has made a preliminary determination that the numbers represent a rational cut-off level and one strongly supported by Senator Muskie's statement of Congress' intent, the numbers were originally proposed approximately four years ago. Further information since that time has not suggested that these numbers are inappropriate, but the Agency is seeking any data which might supply information as to whether other numbers might be more representative of an appropriate cut-off level for assessing which feeding operations are "concentrated" facilities.

It must be emphasized that these regulations do not automatically require applications for permits from every owner or operator of a concentrated animal feeding operation point source. Before a permit is required there must be a "discharge of a pollutant" from the point source into "navigable waters." If there is no discharge from a particular operation which is a point source, there is no need for a permit. As started above, the proposed regulations provide that no permit is required for any concentrated animal feeding operation which discharges pollutants only in the event of a 25 year, 24 hour rainfall event. In addition, although there may be a discharge of a pollutant from a point source, no permit is required if such a discharge does not reach navigable waters. The term "navigable waters" is broadly defined in the FWPCA and is interpreted in detail by the NPDES regulations at 40 CFR 12.1(p).

The effect of these regulations following promulgation and final publication, upon State NPDES programs will be that those NPDES States which have enacted legislation or adopted regulations embodying the earlier exclusions will be required to amend their statutes or regulations so as to be consistent with Federal law and the decision of the District Court.

As noted above, in addition to proposing these regulations for concentrated animal feeding operations, EPA is also proposing regulations relating to storm sewers and will in the future propose regulations concerning the application of the permit system to agricultural and silvicultural activities, as required by the court order. Because EPA believes that many point sources within these previously excluded categories are not susceptible to regulation by effluent limitations and are not appropriate subjects for Federal regulation, EPA is seeking relief in the courts. Therefore, EPA has urged the Department of Justice to appeal the decision of the District Court in "NRDC v. Train."

The basic provisions of the proposed regulations, as well as the implementation strategy for the proposed permit system, are described below.

PROPOSED REGULATIONS FOR CONCENTRATED ANIMAL FEEDING OPERATIONS

CONTENT OF REGULATIONS

(1) The exclusion of small concentrated animal feeding operations from the NPDES permit program is deleted from §§ 124.11 and 125.4.

(2) The definition of the term "animal confinement facility" is deleted from §§ 124.1 and 125.1.

(3) Provisions for the issuance of permits for pollution control from concentrated animal feeding operations are found in an amended Subpart I of Part 124 and a new Subpart F of Part 125, both Subparts entitled "Special Programs."

(4) New sections, §§ 124.82 and 125.51, Concentrated Animal Feeding Operations, are added. These sections would establish a permit system substantially similar to that currently being administered under the NPDES. This program is developed from the guidance provided by Senator Edmund Muskie, Chairman of the then Air and Water Pollution Subcommittee of the Senate Committee on Public Works, during the Senate debate on the FWPCA. Senator Muskie was asked by Senator Dole from Kansas, a major agricultural State, to clarify the "terms 'point source' and 'non-point source'—especially as related to agriculture." Senator Muskie responded by stating the "present policy with respect to the identification of agricultural point sources," and listed three factors to determine the definition of a point source.

These three factors—(1) presence of a man-made drainage ditch, flushing system, or other similar device, (2) presence of certain numbers and types of animals, and (3) presence of navigable waters within the confined area—are included in the definition of "concentrated animal feeding operation" in this program. (Legislative History, pp. 1298 and 1299). Except for those operations which have discharges of pollutants only as a result of a 25 year, 24 hour rainfall event, concentrated animal feeding operations within this definition would be required to apply for a permit. The required permit application would be NPDES Short Form —— (to be added) which must be submitted by March 10, 1977. In addition, permit applications would be required from those owners or operators of animal feeding operations designated by the permit issuing agencies as concentrated animal feeding operations, taking several factors into consideration to make such designation. Finally, the administrative procedures of this alternative would be the same as the permit system established pursuant to Subparts A through K of Part 124 and Subparts A through E of Part 125.

STRATEGY OF REGULATIONS

This proposed regulation conforms with the express guidance stated by Senator Muskie, which is the most explicit statement of Congressional intent on the issue of agricultural point sources. Senator Muskie's response to Senator Dole's concern that "(m)ost sources of agricultural pollution are generally considered to be non-point sources," indicates that he was in agreement with Senator Dole. Thus, this program incorporates the Senators' intent and establishes a permit program similar to that currently administered. Permits for those operations within the definition of concentrated animal feeding operation would be issued on an individual basis, including individual notice, opportunity for a public hearing, and individual responsibility for compliance. Because this permit program closely parallels the permit program established pursuant to Parts 124 and 125, the administration of this approach would require no new procedures. Permits would be based upon effluent guidelines.

By using Senator Muskie's identification of point sources, those concentrated animal feeding operations below the cutoffs and outside the definition suggested by the Senator are excluded from EPA's jurisdiction over point sources except in the case where the Regional Administrator or the Director of a State water pollution control agency designates an animal feeding operation as a concentrated animal feeding operation. Thus, this program should enable EPA and NPDES States to regulate all appropriate sources in the concentrated animal feeding operation category which were identified as point sources by the Senate debate.

REQUEST FOR COMMENTS

Interested persons may participate in this rule-making by submitting written comments to Legal Branch, Water Enforcement Division, Office of Water Enforcement, EN-338, Environmental Protection Agency, Washington, D.C. 20460. Comments upon all aspects of the proposed regulation are solicited; in particular comments are desired concerning the technical definition of "concentrated animal feeding operation" and other definitions; the scope of the regulations; the purpose of the regulations, including the water quality benefits to be gained as contrasted with the costs to the affected owners and operators; the technical numbers used in defining the terms, setting procedural limitations, and requiring pollution control; the administrative procedures for issuing individual permits; and the resource implications of imposing requirements upon both permittees and permit issuing agencies.

In the event comments are in the nature of criticisms as to the adequacy of data which are available, or which may be relied upon by the Agency, comment should identify and, if possible, provide any additional data which may be available and should indicate why such data are essential to the development of the regulations. In the event comments address the approach taken by the Agency in establishing this regulation, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the requirements of the court order.

A copy of all public comments will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2922, Rear Library-Mall, Waterside Mall, 401 M Street, SW., Washington, D.C. 20460. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying. All comments received on or before January 5, 1976 will be considered.

(Secs. 304, 402, 501 Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816 et seq., Pub. L. 92-500 33 U.S.C. 1251 et seq.))

Dated November 13, 1975.

JOHN QUARLES,
Acting Administrator.

PART 124—STATE PROGRAM ELEMENTS NECESSARY FOR PARTICIPATION IN THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Part 124 of Title 40 of the Code of Federal Regulations, setting forth State program elements necessary for participation in the National Pollutant Discharge Elimination System, is proposed to be amended as follows:

SUBPART A—GENERAL

§ 124.1 [Amended]

1. Section 124.1 is amended by deleting paragraph (u) and by relettering paragraph (v) to (u).

SUBPART B—PROHIBITION OF DISCHARGES OF POLLUTANTS

§ 124.11 [Amended]

2. Paragraph (h) of § 124.11 is amended by deleting subparagraphs (1) and (2); by redesignating subparagraphs (3), (4), and (5) to (2), (3), and (4) respectively; and by adding a new subparagraph (1) as follows: "(1) Discharges from concentrated animal feeding operations."

SUBPART I—SPECIAL PROGRAMS

§ 124.80 [Redesignated]

3. Subpart I of Part 124 is amended by deleting the title "Disposal of Pollutants into Wells" and by adding a new title to read as set forth above and by redesignating § 124.80 as 124.81.

4. Subpart I of Part 124 is amended by adding a new § 124.82, *Concentrated animal feeding operations*, as follows:

§ 124.82 Concentrated animal feeding operations.

(a) *Definitions.* For the purpose of this subpart:

(1) The term "animal feeding operation" means a lot or facility (other than an aquatic animal production facility) within which animals have been or will be stabled or confined and fed or maintained for an aggregate of 45 days or more at any time in any 12-month period, and crops, vegetation or forage growth are not sustained in the area of confinement.

(2) The term "concentrated animal feeding operations," other than as provided in paragraph (c) of this section, means only those animal feeding operations where:

(i) Without regard to the numbers and types of animals confined, measurable wastes are discharged into navigable waters through a man-made drainage ditch, flushing system or other similar man-made device; or

(ii) Without regard to the numbers and types of animals confined, measurable wastes are discharged directly into navigable waters which originate outside of and traverse the operation; or

(iii) More than the following numbers and types of animals are confined:

(A) 1,000 slaughter and feeder cattle,

(B) 700 mature dairy cattle (whether milked or dry cows),

(C) 4,500 slaughter hogs,

(D) 35,000 feeder pigs,

(E) 12,000 sheep or lambs,

(F) 55,000 turkeys,
(G) 180,000 laying hens, or
(H) 290,000 broiler chickens, and

Provided, however, That no animal feeding operation identified in this paragraph (a)(2)(iii) of this section is a concentrated animal feeding operation if it only discharges pollutants into navigable waters in the event of a 25 year, 24 hour rainfall event, as defined by the National Weather Service in Technical Paper Number 40 "Rainfall Frequency Atlas of the United States," May 1961, and subsequent amendments, or equivalent Regional or State rainfall probability information developed therefrom.

COMMENT.—The legislative history of the FWPCA indicates that those agricultural sources not within the above definition are presumptively nonpoint sources and therefore are not under the jurisdiction of the permit program. Thus, those animal feeding operations without measurable wastes discharged from a man-made drainage ditch, flushing system or other similar device; without a direct discharge into navigable waters traversing the operation; and with fewer than the cutoff numbers enumerated above are nonpoint sources, unless otherwise designated by the Director pursuant to § 124.82(c) as proposed below.

(3) The term "man-made" means constructed by man for the purpose of transporting wastes.

(b) *Application for a permit.* (1) Any person discharging or proposing to discharge pollutants from a concentrated animal feeding operation shall file an application with the Director by March 10, 1977.

(2)(i) Each application must be filed on a Short Form—(to be added) and completed in accordance with the instructions provided with such form.

(ii) In addition to the information required in the Short Form—(to be added) the Director may require any applicant to submit such other information as the Director deems necessary to proceed with the issuance of the permit.

(c) *Case-by-case designation of concentrated animal feeding operations.* Notwithstanding any other provision of this section, the Director or the Regional Administrator may designate as a concentrated animal feeding operation any animal feeding operation not otherwise falling within the definition provided in paragraph (a)(2) of this section. In making such designation the Director or the Regional Administrator shall consider the following factors:

(1) The size of the animal feeding operation and the amount of wastes reaching navigable waters;

(2) The location of the animal feeding operation relative to navigable waters;

(3) The means of conveyance of animal wastes and process waste waters into navigable waters;

(4) The slope, vegetation, rainfall, and other factors relative to the likelihood or frequency of discharge of animal wastes and process waste waters into navigable waters; and

(5) Other such factors relative to the significance of the pollution problem sought to be regulated.

COMMENT.—See 40 CFR 412.11(c) for the definition of "process waste water."

PART 125—NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Part 125 of Title 40 of the Code of Federal Regulations, setting forth policies and procedures for the Environmental Protection Agency's administration of its role in the National Pollutant Discharge Elimination System, is proposed to be amended as follows:

SUBPART A—GENERAL

§ 125.1 [Amended]

1. Section 125.1 is amended by deleting paragraph (ii) and by redesignating paragraph (jj) as (ii).

§ 125.4 [Amended]

2. Paragraph (j) of § 125.4 is amended by deleting subparagraphs (1) and (2); by redesignating subparagraphs (3), (4) and (5) as (2), (3) and (4) respectively; and by adding a new subparagraph (1) as follows: (1) Discharges from concentrated animal feeding operations.

SUBPART F—SPECIAL PROGRAMS

3. Part 125 is amended by adding a new Subpart F, Special Programs, consisting of §125.51 to read as follows:

§ 125.51 Concentrated animal feeding operations.

(a) *Definitions.* For the purpose of this subpart:

(1) The term "animal feeding operation" means a lot or facility (other than an aquatic animal production facility) within which animals have been or will be stabled or confined and fed or maintained for an aggregate of 45 days or more at any time in any 12 months period, and crops, vegetation or forage growth are not sustained in the area of confinement.

(2) The term "concentrated animal feeding operations," other than an provided in paragraph (c) of this section, means only those animal feeding operations where:

(i) Without regard to the numbers and types of animals confined, measurable wastes are discharged into navigable waters through a man-made drainage ditch, flushing system or other similar man-made device; or

(ii) Without regard to the numbers and types of animals confined, measurable wastes are discharged directly into navigable waters which originate outside of and traverse the operation; or

(iii) More than the following numbers and types of animals are confined:

(A) 1,000 slaughter and feeder cattle,
(B) 700 mature dairy cattle (whether milked or dry cows),
(C) 4,500 slaughter hogs,
(D) 35,000 feeder pigs,
(E) 12,000 sheep or lambs,
(F) 55,000 turkeys,
(G) 180,000 laying hens, or
(H) 290,000 broiler chickens, and

Provided, however, That no animal feeding operation identified in this paragraph (a)(2)(iii) of this section is a concentrated animal feeding operation if it only discharges wastes into navigable waters in the event of a 25 year, 24 hour rainfall event, as defined by the National Weather Service in Technical Paper Number 40 "Rainfall Frequency Atlas of the United States," May 1961, and subsequent amendments, or equivalent Regional or State rainfall probability information developed therefrom.

COMMENT.—The legislative history of the FWPCA indicates that those agricultural sources not within the above definition are presumptively nonpoint sources and therefore are not under the jurisdiction of the permit program. Thus, those animal feeding operations without measurable wastes discharged from a man-made drainage ditch, flushing system or other similar device; without a direct discharge into navigable waters traversing the operation; and with fewer than the cutoff numbers enumerated above are nonpoint sources, unless otherwise designated by the Regional Administrater pursuant to § 125.51(c) as proposed below.

(3) The term "man-made" means constructed by man for the purpose of transporting wastes.

(b) *Application for permit.* (1) Any person discharging or proposing to discharge pollutants from a concentrated animal feeding operation shall file an application with the Regional Administrator by March 10, 1977.

(2)(i) Each application must be filed on a Short Form—(to be added) and completed in accordance with the instructions provided with such form.

(ii) In addition to the information required in the Short Form—(to be added) the Regional Administrator may require any applicant to submit such information as the Regional Administrator deems necessary to proceed with the issuance of the permit.

(c) *Case-by-case designation of concentrated animal feeding operation*. Notwithstanding any other provision of this section, the Regional Administrator may designate as a concentrated animal feeding operation any feeding operation not otherwise falling within the definition provided in paragraph (a)(2) of this section. In making such designation the Regional Administrator shall consider the following factors:

(1) The size of the animal feeding operation and the amount of wastes reaching navigable waters;

(2) The location of the animal feeding operation relative to navigable waters;

(3) The means of conveyance of animal wastes and process waste waters into navigable waters;

(4) The slope, vegetation, rainfall, and other factors relative to the likehood or frequency of discharge of animal wastes and process waste waters into navigable waters; and

(5) Other such factors relative to the significance of the pollution problem sought to be regulated.

COMMENT.—See 40 CFR 412.11(c) for the definition of "process waste water."